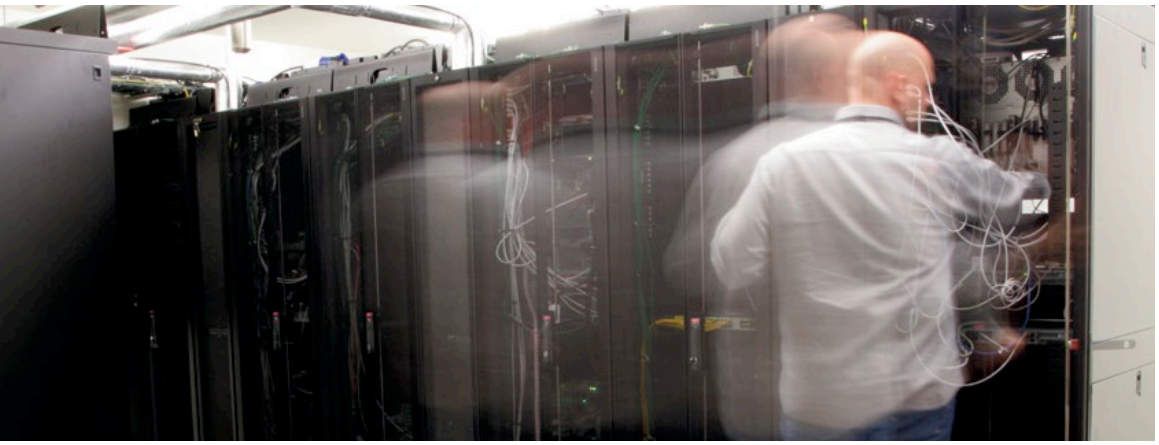
CyberPower

UPS SYSTEMS

The CyberPower Story



The growth of CyberPower Systems is attributable to a strategic plan that engages our own award-winning international research and development team in the design of feature-rich products for IT professionals and tech-savvy consumers everywhere. At our advanced technology manufacturing facilities, we build a comprehensive line of innovative products, including uninterruptible power supply (UPS) systems, power distribution units (PDUs), surge protectors, mobile chargers and connectivity devices, all engineered to exceed international safety and environmental standards.

Whether you run a corporate data center, own a small business or simply use electronic devices in your home office or at leisure, CyberPower has the power protection systems to safeguard your equipment investment and valuable data.

A History of Innovation

Our rapid growth is tied directly to ongoing innovation that satisfies the needs of our customers. This focus has helped us achieve many firsts in the power protection industry.

Our firsts include the following achievements:

- Integrating LED and LCD control panels on UPS systems for on-the-spot battery backup management. CyberPower still offers the largest selection of UPS models with LCD control panels.
- Developing patented GreenPower UPS™ Technology to reduce UPS heat and energy loss. This advancement resulted in significant energy cost reduction – up to 75% savings over conventional UPS systems.
- Providing a three-year repair or replacement warranty that includes batteries.
- Providing a Connected Equipment Guarantee, valued at up to $500,000, for repair or replacement of properly connected equipment damaged by a power surge – including surges due to lightning strikes.
- Incorporating Fast Charge Technology for Extended Battery Modules, allowing the UPS to return to 100% capacity in about one-third the time required by competitive models.
- Introducing PFC Sinewave technology to fulfill the growing demand for pure sine wave backup for workstations and other mid-range systems with active power factor correction (Active PFC) power supplies. The PFC Sinewave™ UPS series was voted Best Channel Product in 2011 by readers of Business Solutions Magazine.

ENERGY STAR

Featuring the largest selection of ENERGY STAR® qualified UPS systems (350VA-10kVA).

CRN DATA CENTER 100

Named to the CRN Data Center 100 list (2013).

Global Distribution

Our products are available through authorized distributors and are sold by value-added resellers, system integrators, direct market resellers, e-tailers and select retail stores.

The company's global reach is accomplished through offices and distribution centers located in Australia, France, the Netherlands, Russia, Japan, China, Taiwan, Mexico and the United States.

Table of Contents

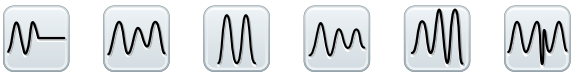
Power Protection Overview

Choosing a UPS

CyberPower offers IT professionals and home office users a broad selection of uninterruptible power supply (UPS) solutions, all designed to protect sensitive electronic equipment and vital data from potential harm. The three topologies described here address ascending levels of protection from nine power problems, shown in graphic symbols. Throughout this catalog, these symbols are provided as an aid for selecting a UPS system that meets the specific protection needs of different users in varying environments. In addition, you will see information for each of our UPS series about waveform output – either sine wave or simulated sine wave – which is critical to the optimal performance of connected equipment. We are confident there is a CyberPower UPS that fits your environment and offers the protection you require.

Essential Protection — Standby

Standby is the most basic UPS topology. During the most common power problems, the UPS resorts to battery backup power to provide electricity. These UPS systems are designed for consumer electronics, computers, POS systems, security systems and other basic equipment.

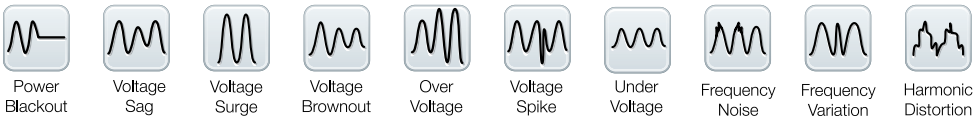


Professional Protection — Line-Interactive

Line-Interactive topology incorporates technology that allows the UPS to correct minor power fluctuations (brownouts, overvoltages, etc.) without switching to battery. This extends the life of the battery and is essential in areas where power fluctuations occur regularly. Typical applications are consumer electronics, PCs and mid-range servers.

Total Protection — Double-Conversion

Double-Conversion topology provides consistent, clean and near perfect power, regardless of the condition of incoming power. Systems with this technology operate on isolated battery-supplied power 100% of the time and have a zero transfer time because they never need to switch to battery. Double-Conversion UPS systems are designed for high-end system components, corporate servers, lab equipment and other sensitive electronic devices.



UPS Waveform Output

Sine Wave

The highest quality wave form output is pure sine wave. Enterprise-level UPS systems produce sine wave power to operate sensitive electronic equipment. Sine wave output ensures that equipment utilizing Active PFC power supplies do not shutdown when switching from utility power to battery power.

Simulated Sine Wave

Simulated sine wave is an approximated sine wave output wave form. This type of UPS output is less expensive to manufacture and is common in Standby and Line-interactive UPS systems. Newer, more power efficient electronic equipment; i.e., ENERGY STAR, may not function properly with simulated sine wave output.

Product Line Features

This listing is intended as an overview of the many innovative features found in various CyberPower UPS systems. The features listed below are not available with all UPS models. A comprehensive list of features and specifications for each UPS model can be found on our website at cpsww.com.

Active PFC Compatibility

CyberPower UPS systems with pure sine wave output prevent unexpected shutdowns or component stress which may occur when devices with Active PFC power supplies are connected to an entry-level UPS that provides simulated sine wave power. *See page 28 for more details.*

Automatic Voltage Regulation (AVR)

Stabilizes AC voltages to maintain safe voltage levels without switching to battery mode, thereby conserving battery life and delivering cleaner AC power to connected equipment.

Connected Equipment Guarantee

CyberPower will repair or replace properly connected equipment if it is ever damaged by a surge, including surges due to lightning strikes. Refer to the warranty section of the device manual for more details.

Convertible Rack/Tower Configuration

Units can be set up horizontally or vertically, except 1U models, and each unit ships with a rack mounting kit and tower stands.

Critical Load Outlets

During a power outage or overload, critical load outlets ensure continuous power to essential equipment. Systems with PowerPanel® Management Software allow programmable control of these outlets, including scheduled shutdowns and restarts.

Emergency Power Off Port (EPO)

EPO is a protection feature that can be used to instantly cut power to equipment in the event of fire, flood, overheating or any other emergency where it may not be possible to access the main disconnect device safely.

ENERGY STAR® Qualified

CyberPower has over 120 UPS systems (between 350V – 10kVA) that have been certified by ENERGY STAR. CyberPower assisted the EPA in developing the standards to qualify ENERGY STAR UPS systems to ensure these products save energy without sacrificing features or functionality.

Generator Mode

During extended power outages, UPS models with this feature handle generator output aberrations as the generator and its loads go through initial ramp-up to full operation, preventing data corruption or shutdown of connected equipment.

GreenPower UPS™ Technology

Patented advanced circuitry reduces UPS energy consumption, heat buildup and overall UPS energy costs. *See page 22 for more details.*

Hot-Swappable Batteries

Eliminate power-related downtime and ensure maximum power availability. All potential UPS maintenance, including complete power module exchange, can be performed without powering down connected equipment.

Industry-Leading Three-Year Warranty

CyberPower will repair or replace damaged units within three years of purchase date—including dead batteries—a first for the UPS industry.

LCD Control Panel

The LCD interface allows users to check the status of the UPS, configure settings, review event logs, disable alarms and more. *See page 10 for more details.*

Multifunction LCD Display Panel

The LCD displays vital UPS status information, such as input voltage level, output voltage level, automatic voltage regulation, battery capacity, runtime estimate, load level, output frequency, on battery, overload, fault condition and silent mode—depending on model. *See page 24 for more details.*

Multiple Communication Ports

Communication is offered via an HID-compliant USB port or serial port, including remote monitoring using a standard web browser or network management system, with the addition of an optional SNMP/HTTP remote management card—depending on model.

Power Management Software

PowerPanel® software is included with CyberPower UPS systems. In the event of a power loss, PowerPanel Personal Edition ensure connected devices shut down safely. PowerPanel Business Edition gives administrators the tools for full local and remote control. *See page 39 for more details.*

RoHS & WEEE

Every CyberPower device is manufactured in accordance with the Restriction of Hazardous Substances (RoHS) directive by the European Union, mandating environmentally safe procedures and restricting the use of lead, cadmium, mercury, hexavalent chromium, PBB and PBDE. CyberPower manufacturing processes adhere to the Waste Electrical and Electronic Equipment (WEEE) directive, issued by the European Union, encouraging the collection, treatment, recycling and recovery of electrical waste and discarded electronic equipment.

Selectable Output Voltages

Certain high capacity CyberPower UPS models may be configured to output selectable voltages. Low voltage output options are 100V, 110V, 115V, 120V and 125V. High voltage options are 200V, 208V, 220V 230V and 240V ±2%.

TAA Compliant

CyberPower manufactures products that are certified compliant with the U.S. Trade Agreements Act (TAA) and listed on the GSA Schedule Contract for approved use in government installations. Look for this ◂ symbol for models that are TAA compliant.

Ultra-Quiet Design

Efficient design, advanced system components and GreenPower UPS™ technology help minimize sound emissions for a quieter work environment.

UL Standards

All CyberPower UPS systems are manufactured and certified by Underwriters Laboratories (UL) passing strict testing requirements to ensure the highest electrical safety standards and performance.

Smart App Online

6kVA – 10kVA Rack/Tower Convertible OL Models

Waveform Output

Sine Wave

Typical Applications

- Corporate Data Centers
- Corporate Servers
- Network and Storage Devices
- Complex Security Systems
- PBX and VoIP Installations

Features

- Double-Conversion Topology
- 0.9 Power Factor
- Pure Sine Wave Output
- Removable LCD Control Panel
- Fast Charge Technology
- Selectable Output Voltages
- Generator Mode
- GreenPower UPS ECO Mode
- PowerPanel Business Software

ENERGY STAR

Scan to view our Online UPS Outlet Guide

Smart App Online rack/tower UPS models, with Double-Conversion topology, provide pure sine wave output to mission-critical applications and equipment requiring seamless power correction. These units offer generator compatibility and deliver clean AC power with zero transfer time.

Key User Benefits

Rack/Tower Versatility — Adapt to changing needs with horizontal rack or vertical tower installation options.

Removable LCD Control Panel — Easily check 38 UPS statuses and customize operating settings from up to ten feet away, with optional cable, when the UPS is installed in a hard-to-reach location.

Step-Down Transformer — Support both 120V and 200-240V output requirements with a single UPS solution. *On select models.*

Extended Runtime Battery Modules — Expand runtime and restore full backup power faster with EBMs featuring Fast Charge Technology.

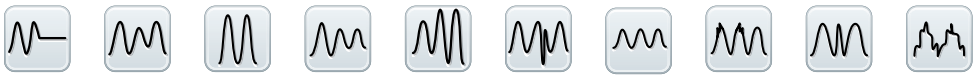
Hot-Swappable Batteries — Eliminate downtime with hot-swappable batteries.

3-Cycle Battery Charging — Reduce heat and improve UPS battery life up to five years with the Smart Battery Management (SBM) charging system.

GreenPower UPS™ ECO Mode — Save on electrical and cooling costs by using the configurable ECO Mode to improve UPS efficiency up to 95%.

Remote Management — PowerPanel Business® Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Total Protection



Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage | Frequency Noise | Frequency Variation | Harmonic Distortion

Battery Technology

Fast Charge Technology

Backup power supply is returned to 100% capacity quicker with Fast Charge Technology, because each Extended Battery Module attached to the UPS has its own charger. Typical systems share a single charger for all attached battery modules, increasing the time required to fully restore backup power.

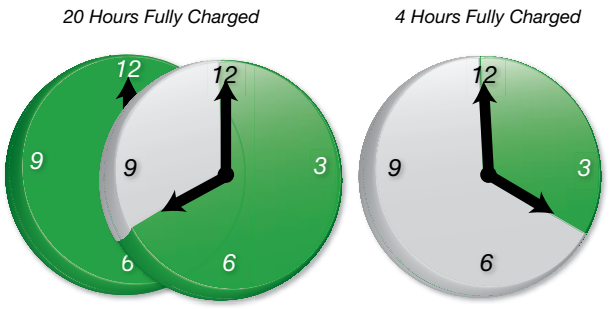
Smart Battery Management (SBM)

SBM is an intelligent battery charging system that extends the functional life of a UPS battery. It works by charging the battery in three phases, avoiding the constant trickle charge that can reduce battery life in units without SBM technology.

In addition to the advanced battery charger, SBM also reduces battery deterioration caused by excessive heat during working cycles. These combined features result in longer periods between UPS battery replacements.

Fast Charge Technology

30 Amp Extended Battery Module (EBM) Charge Time Comparison



All new Smart App Online Extended Battery Modules include new Fast Charge Technology.

OL10000RT3U

- A Input Breaker
- B Noncritical Load Outlets
- C Output Breaker
- D Hard-Wired Input
- E Hard-Wired Output
- F Critical Load Outlet
- G Serial, USB, Remote LCD Ports
- H High Volume Fan
- I RJ45 Protection
- J Relay Output
- K SNMP Slot
- L Extended Battery Port
- M EPO Port
- N Back-Feed Protection
- O Battery AC Input/Output
- P Battery Output 240V
- Q EBM Connection
- R DC Breaker

Rack/Tower UPS Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL6000RT3U	6000/ 5400	15/5	200–240	40–70	L6-30P	L6-20R (2) L6-30R (2)	200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	6	6U	✔	BP240V30ART3U
OL8000RT3U	8000/ 7200	13/5	200–240	40–70	HW	L6-30R (3) HW (1)		50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U
OL10000RT3U	10000/ 9000	11/4	200–240	40–70	HW	L6-30R (3) HW (1)		50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30ART3U	OL6000RT3U, OL8000RT3U, OL10000RT3U	4 Hours	240V	12V/7.2AH (20)	17 x 5.2 x 26	167.2	3 Years

OL8000RT3UTF

- A Output Breaker
- B L6-20R/L6-30R Outlets
- C 120V 5-20R Outlets
- D Input Breaker
- E Noncritical Load Outlets
- F Hard-Wired Input
- G Hard-Wired Output
- H Critical Load Outlet
- I Serial, USB, Remote LCD Ports
- J High Volume Fan
- K RJ45 Protection
- L Relay Output
- M SNMP Slot
- N Extended Battery Port
- O EPO Port
- P Back-Feed Protection
- Q Battery AC Input/Output
- R Battery Output 240V
- S EBM Connection
- T DC Breaker

Rack/Tower UPS with Step-Down Transformer Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL6000RT3UTF	6000/ 5400	15/5	200–240	40–70	L6-30P	L6-20R (2) L6-30R (1) 5-20R (12)	120 and 200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	6	8U	✔	BP240V30ART3U
OL8000RT3UTF	8000/ 7200	13/5	200–240	40–70	HW	L6-20R (2) L6-30R (4)		50/60 ±0.25%		N/A	9U	✔	BP240V30ART3U
OL10000RT3UTF	10000/ 9000	11/4	200–240	40–70	HW	HW (1) 5-20R (12)		50/60 ±0.25%		N/A	9U	✔	BP240V30ART3U

OL10000RT3UPDU

- A Input Breaker
- B Safety Lock
- C Maintenance Bypass Switch
- D Hard-Wired Input
- E Hard-Wired Output
- F Serial, USB, Remote LCD Ports
- G High Volume Fan
- H RJ45 Protection
- I Relay Output
- J SNMP Slot
- K Extended Battery Port
- L EPO Port
- M Back-Feed Protection
- N Output Breaker
- O Noncritical Load Outlets
- P Critical Load Outlets
- Q Battery AC Input & Output
- R Battery Output 240V
- S EBM Connection
- T DC Breaker

Hot-Swappable Rack/Tower UPS Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL6000RT3UPDU	6000/ 5400	15/5	200–240	40–70	HW	L6-20R (2) L6-30R (4) HW (1)	200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	6U	✔	BP240V30ART3U
OL8000RT3UPDU	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U
OL10000RT3UPDU	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30ART3U	OL6000RT3UTF, OL8000RT3UTF, OL10000RT3UTF OL6000RT3UPDU, OL8000RT3UPDU, OL10000RT3UPDU	4 Hours	240V	12V/7.2AH (20)	17 x 5.2 x 26	167.2	3 Years

OL6000RT3UPDUTF

- A Output Breaker
- B 5-20R Outlets
- C Input Breaker
- D Safety Lock
- E Maintenance Bypass Switch
- F Hard-Wired Input
- G Hard-Wired Output
- H Serial, USB, Remote LCD Ports
- I High Volume Fan
- J RJ45 Protection
- K Relay Output
- L SNMP Slot
- M Extended Battery Port
- N EPO Port
- O Back-Feed Protection
- P Noncritical Load Outlets
- Q Critical Load Outlets
- R Battery AC Input & Output
- S Battery Output 240V
- T EBM Connection
- U DC Breaker

Hot-Swappable Rack/Tower UPS with Step-Down Transformer Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL6000RT3UPDUTF	6000/ 5400	15/5	200–240	40–70	HW	L6-20R (2) L6-30R (3) HW (1) 5-20R (12)	120 and 200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	8U	✔	BP240V30ART3U
OL8000RT3UPDUTF	8000/ 7200	13/5	200–240	40–70	HW	L6-20R (4) L6-30R (5)		50/60 ±0.25%		N/A	9U	✔	BP240V30ART3U
OL10000RT3UPDUTF	10000/ 9000	11/4	200–240	40–70	HW	HW (1) 5-20R (12)		50/60 ±0.25%		N/A	9U	✔	BP240V30ART3U

OL10000RT3UHW

- **A** Input Breaker
- **B** Safety Lock
- **C** Maintenance Bypass Switch
- **D** Hard-Wired Input
- **E** Hard-Wired Output
- **F** Serial, USB, Remote LCD Ports
- **G** High Volume Fan
- **H** RJ45 Protection
- **I** Relay Output
- **J** SNMP Slot
- **K** Extended Battery Port
- **L** EPO Port
- **M** Back-Feed Protection
- **N** Battery AC Input & Output
- **O** Battery Output 240V
- **P** EBM Connection
- **Q** DC Breaker

Hot-Swappable Hard-Wired Rack/Tower UPS Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL6000RT3UHW	6000/ 5400	15/5	200–240	40–70	HW	HW (1)	200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	6U	✔	BP240V30ART3U
OL8000RT3UHW	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U
OL10000RT3UHW	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	6U	✔	BP240V30ART3U

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30ART3U	OL6000RT3UPDUTF, OL8000RT3UPDUTF, OL10000RT3UPDUTF, OL6000RT3UHW, OL8000RT3UHW, OL10000RT3UHW	4 Hours	240V	12V/7.2AH (20)	17 x 5.2 x 26	167.2	3 Years

Smart App Online

6kVA – 10kVA Tower OL Models

Waveform Output

Sine Wave

Typical Applications

- Corporate Data Centers
- Corporate Servers
- Network and Storage Devices
- Complex Security Systems
- PBX and VoIP Installations

Features

- Double-Conversion Topology
- 0.9 Power Factor
- Pure Sine Wave Output
- Removable LCD Control Panel
- Fast Charge Technology
- Selectable Output Voltages
- Generator Mode
- GreenPower UPS ECO Mode
- PowerPanel Business Software

Scan to view our Online UPS Outlet Guide

Smart App Online tower UPS models, with Double-Conversion topology, provide pure sine wave output to mission-critical applications and equipment requiring seamless power correction. These units offer generator compatibility and deliver clean AC power with zero transfer time.

Key User Benefits

Removable LCD Control Panel — Easily check 38 different UPS statuses and customizable operating settings from up to ten feet away, with optional cable, when the UPS is installed in a hard-to-reach location.

Step-Down Transformer — Support both 120V and 200-240V output requirements with a single UPS solution. *On select models.*

Extended Battery Modules (EBM) — Expand runtime and restore full backup power faster with EBMs featuring Fast Charge Technology.

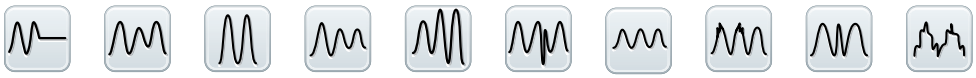
Hot-Swappable Batteries — Eliminate downtime with hot-swappable batteries.

Smart Battery Management (SBM) — Reduce heat and improve UPS battery life up to five years with the three cycle battery charging system.

GreenPower UPS™ ECO Mode — Save on electrical and cooling costs by using the configurable ECO Mode to improve UPS efficiency up to 95%.

Remote Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Total Protection



Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage | Frequency Noise | Frequency Variation | Harmonic Distortion

LCD Control Panel

Removable LCD Control Panel

When the UPS is installed in a hard-to-reach area, such as the bottom of a rack, in a crowded IT closet or on the floor, the LCD control panel may be removed and relocated for easy access up to ten feet away, when connected by a DB26 cable (sold separately) to the front or back of the UPS.

Menu Functions

UPS Status — Displays 19 vital UPS statuses including input and output voltage, battery information, runtime estimates, load data and more.

LCD Settings Configuration — Offers customization of the UPS with 38 specific operation parameters including output voltage, sync frequency, alarm settings and more.

Event Log — Allows recording of all UPS events with or without PowerPanel Business Edition management software.

Multi-Language — Display text in English, Spanish or French.

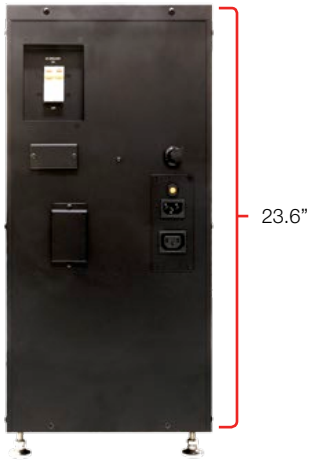
Disable Audible Alarms — Turn off audible alarms as needed.

Manual Battery Test — Enables self-testing to ensure the UPS is operating properly.

This innovative LCD interface permits users to check UPS status, diagnose problems and manage setup on-site, in addition to convenient configuration with PowerPanel® Business Edition management software and optional remote management of the unit.

OL8000 / OL10000

- A EPO Port
- B SNMP Slot
- C Back-Feed Protection
- D Relay Output
- E Serial, USB, Remote LCD Ports
- F High Volume Fan
- G Input Breaker
- H Output Breaker
- I Noncritical Load Outlets
- J RJ45 Protection
- K Extended Battery Port
- L Critical Load Outlets
- M Hard-Wired AC Bypass
- N Hard-Wired AC Input
- O Hard-Wired AC Output
- P Steel Caster
- Q Leveling Feet



The Extended Battery Module offers increased runtimes during power outages.

Tower UPS Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Dimensions WxHxD (in)	Energy Saving	Compatible Extended Battery Module
OL6000	6000/ 5400	15/5	200–240	40–70	HW	HW (1) L6-20R (4) L6-30R (2)	200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	10.4 x 23.6 x 26	✔	BP240V30A
OL8000	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26	✔	BP240V50A
OL10000	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26	✔	BP240V50A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30A	OL6000	4 Hours	240V	12V/7.2AH (20)	10.4 x 23.6 x 26	167.2	3 Years
BP240V50A	OL8000, OL10000	5 Hours	240V	12V/9AH (20)	10.4 x 23.6 x 26	167.2	3 Years

- A EPO Port
- B SNMP Slot
- C Back-Feed Protection
- D Relay Output
- E Serial, USB, Remote LCD Ports
- F High Volume Fan
- G Input Breaker
- H Output Breaker
- I Noncritical Load Outlets
- J RJ45 Protection
- K Extended Battery Port
- L Critical Load Outlets
- M Hard-Wired AC Bypass
- N Hard-Wired AC Input
- O Hard-Wired AC Output
- P Steel Caster
- Q Leveling Feet

OL8000TF / OL10000TF

Tower UPS with Step-Down Transformer Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	UPS/Transformer Dimensions WxHxD (in)	Energy Saving	Compatible Extended Battery Module
OL6000TF	6000/ 5400	15/5	200–240	40–70	HW	5-20R (12) L6-20R (4) L6-30R (6)	120 and 200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V30A
OL8000TF	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V50A
OL10000TF	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V50A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30A	OL6000TF	4 Hours	240V	12V/7.2AH (20)	10.4 x 23.6 x 26	167.2	3 Years
BP240V50A	OL8000TF, OL10000TF	5 Hours	240V	12V/9AH (20)	10.4 x 23.6 x 26	167.2	3 Years

OL8000HW / OL10000HW

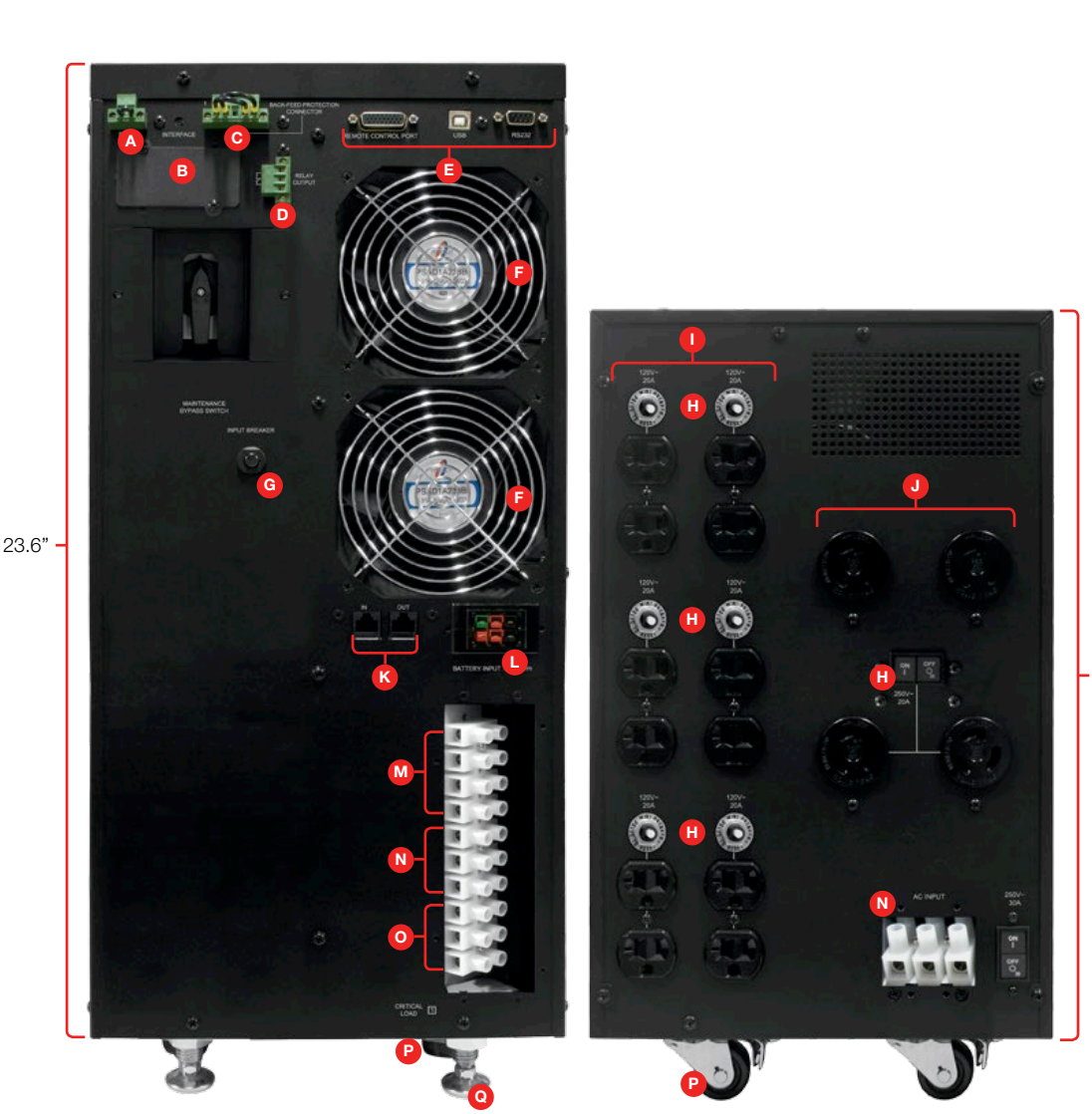
- A EPO Port
- B SNMP Slot
- C Back-Feed Protection
- D Relay Output
- E Serial, USB, Remote LCD Ports
- F High Volume Fan
- G Input Breaker
- H RJ45 Protection
- I Extended Battery Port
- J Hard-Wired AC Bypass
- K Hard-Wired AC Input
- L Hard-Wired AC Output
- M Steel Caster
- N Leveling Feet

The Extended Battery Module offers increased runtimes during power outages.

Hard-Wired Tower UPS Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Dimensions WxHxD (in)	Energy Saving	Compatible Extended Battery Module
OL6000HW	6000/ 5400	15/5	200–240	40–70	HW	HW (1)	200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	10.4 x 23.6 x 26	✔	BP240V30A
OL80000HW	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26	✔	BP240V50A
OL10000HW	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26	✔	BP240V50A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30A	OL6000HW	4 Hours	240V	12V/7.2AH (20)	10.4 x 23.6 x 26	167.2	3 Years
BP240V50A	OL8000HW, OL10000HW	5 Hours	240V	12V/9AH (20)	10.4 x 23.6 x 26	167.2	3 Years



- A EPO Port
- B SNMP Slot
- C Back-Feed Protection
- D Relay Output
- E Serial, USB, Remote LCD Ports
- F High Volume Fan
- G Input Breaker
- H Output Breaker
- I Noncritical Load Outlets
- J Critical Load Outlets
- K RJ45 Protection
- L Extended Battery Port
- M Hard-Wired Bypass
- N Hard-Wired Input
- O Hard-Wired Output
- P Steel Caster
- Q Leveling Feet

OL6000HWTF

Hard-Wired Tower UPS with Step-Down Transformer Specifications — 6kVA – 10kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	UPS/Transformer Dimensions WxHxD (in)	Energy Saving	Compatible Extended Battery Module
OL6000HWTF	6000/ 5400	15/5	200–240	40–70	HW	5-20R (12) L6-20R (2) L6-30R (2) HW(1)	120 and 200, 208, 220, 230, 240	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V30A
OL8000HWTF	8000/ 7200	13/5	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V50A
OL10000HWTF	10000/ 9000	11/4	200–240	40–70	HW			50/60 ±0.25%		N/A	10.4 x 23.6 x 26/ 10.4 x 18.2 x 16.9	✔	BP240V50A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP240V30A	OL6000HWTF	4 Hours	240V	12V/7.2AH (20)	10.4 x 23.6 x 26	167.2	3 Years
BP240V50A	OL8000HWTF, OL10000HWTF	5 Hours	240V	12V/9AH (20)	10.4 x 23.6 x 26	167.2	3 Years

Smart App Online

1kVA – 3kVA Tower & Rack/Tower Convertible OL Models

Waveform Output

Sine Wave

Typical Applications

- Corporate Data Centers
- Corporate Servers
- Network and Storage Devices
- Complex Security Systems
- PBX and VoIP Installations

Features

- Double-Conversion Topology
- Pure Sine Wave Output
- Removable LCD Control Panel
- Fast Charge Technology
- Selectable Output Voltages
- Generator Mode
- GreenPower UPS ECO Mode
- PowerPanel Business Software

ENERGY STAR

Smart App Online rack/tower UPS models provide pure sine wave output to mission-critical servers and equipment requiring seamless power correction. Equipped with Double-Conversion topology, these units offer generator compatibility and deliver clean AC power with zero transfer time.

Key User Benefits

Removable LCD Control Panel — Easily check 43 different UPS statuses and customizable operating settings from up to ten feet away, with optional cable, when the UPS is installed in a hard-to-reach location.

Extended Battery Modules (EBM) — Expand runtime and restore full backup power faster with EBMs featuring Fast Charge Technology.

Hot-Swappable Batteries — Eliminate downtime with hot-swappable batteries.

Smart Battery Management (SBM) — Reduce heat and improve UPS battery life up to five years with the three cycle battery charging system.

Rack/Tower Versatility — Adapt to changing needs with horizontal rack or vertical tower installation options.

GreenPower UPS™ ECO Mode — Save on electrical and cooling costs by using the configurable ECO Mode to improve UPS efficiency up to 93%.

Remote Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Total Protection

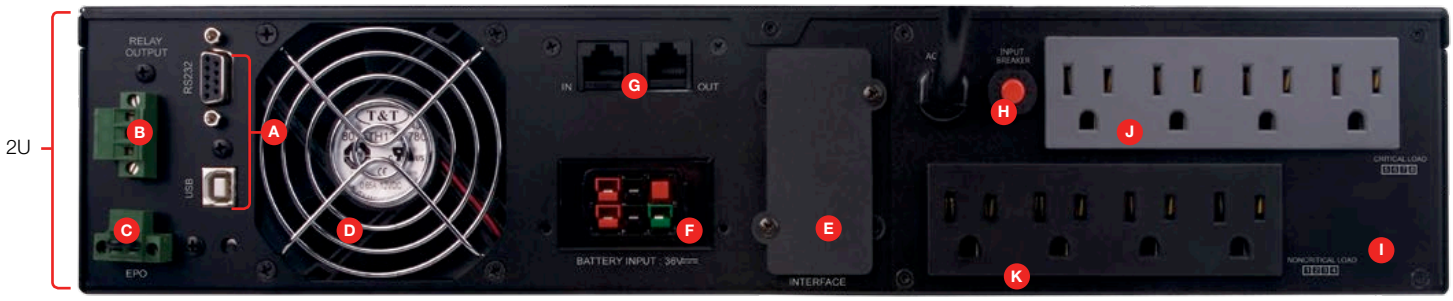
Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage | Frequency Noise | Frequency Variation | Harmonic Distortion

Higher Capacity UPS for Longer Runtimes

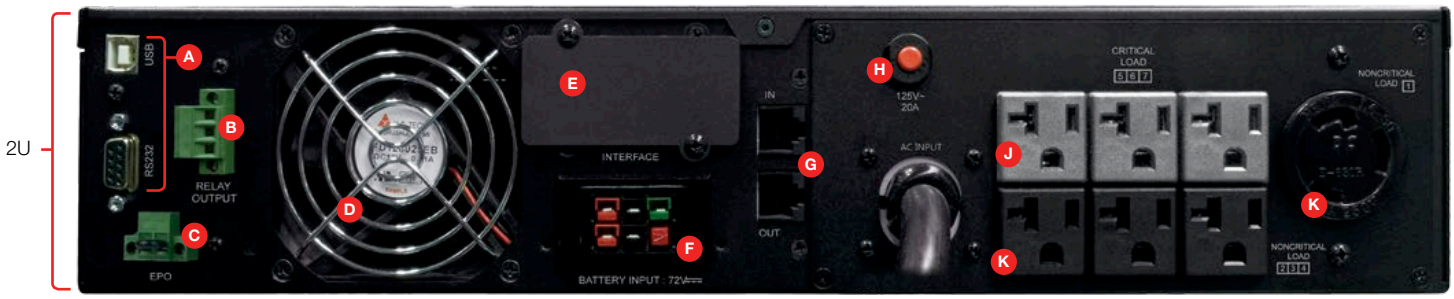
Two key factors in determining the size of UPS that you will require are (a) the total power load (measured in VA/Watts) of the connected equipment to be protected and (b) the expected or required runtime of the connected equipment. Also, consider the equipment that may be needed in the future as part of your load calculations and runtime considerations.

Estimating expected UPS runtimes can be challenging, particularly in areas where the consistency of the utility power is not well known. Selecting a UPS with a load capacity 30-35% above the required power load offers the advantage of longer runtimes, thereby adding what could prove to be an important margin of safety to an installation's runtime. While the initial outlay for a UPS increases with its size, due to the higher capacity components required, operating costs are typically lower in the long run because component wear and tear is reduced when the UPS operates below maximum capacity.

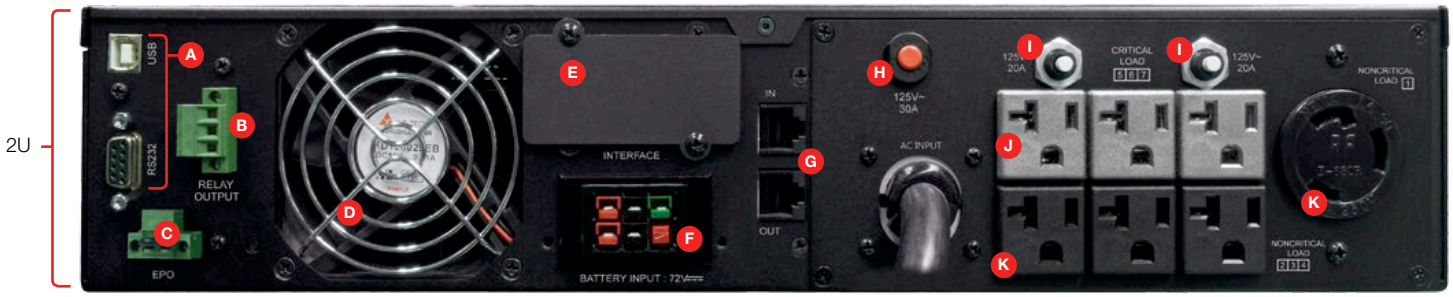
In addition to extended runtimes, sizing a UPS to run loads that are significantly lower than its capacity effectively increases battery life. This helps to minimize the possibility of battery failure.



OL1000RTXL2U / OL1500RTXL2U



OL2200RTXL2U



OL3000RTXL2U

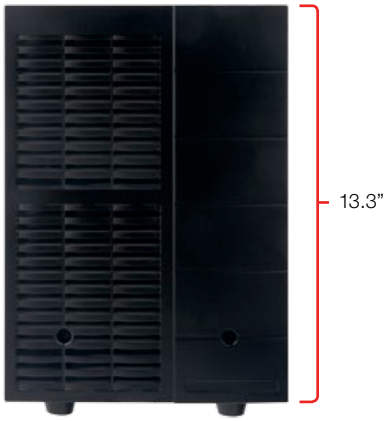
- **A** USB, Serial Ports
- **B** Relay Outputs
- **C** EPO Port
- **D** Cooling Fan
- **E** SNMP Slot
- **F** Extended Battery Port
- **G** RJ45 Protection
- **H** Input Breaker
- **I** Output Breaker
- **J** Critical Load Outlets
- **K** Noncritical Load Outlets

Rack/Tower UPS Specifications — 1kVA – 3kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OL1000RTXL2U	1000/ 900	18/6	60-150	40–70	5-15P	5-15R (8)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	10	2U	✔	BP36V60ART2U
OL1500RTXL2U	1500/ 1350	9/3	60-150	40–70	5-15P	5-15R (8)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	2U	✔	BP36V60ART2U
OL2200RTXL2U	2200/ 1800	18/6	60-150	40–70	L5-30P	5-20R (6) L5-20R (1)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	2U	✔	BP72V60ART2U
OL3000RTXL2U	3000/ 2700	9/3	60-150	40–70	L5-30P	5-20R (6) L5-30R (1)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	2U	✔	BP72V60ART2U

OL3000XL

- A SNMP Slot
- B EPO Port
- C USB, Serial Ports
- D Cooling Fans
- E Extended Battery Port
- F Relay Output
- G Noncritical Load Outlets
- H Critical Load Outlets
- I Output Breaker
- J Input Breaker
- K RJ45 Protection



The Extended Battery Module offers increased runtimes during power outages.

Tower UPS Specifications — 1kVA – 3kVA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Dimensions WxHxD (in)	Energy Saving	Compatible Extended Battery Module
OL1000XL	1000/ 900	18/6	60-150	40–70	5-15P	5-15R (9)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%	HID USB, Serial, SNMP, EPO, Relay	10	6.3 x 9.1 x 16	✔	BP36V60A
OL1500XL	1500/ 1350	9/3	60-150	40–70	5-15P	5-15R (9)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	6.3 x 9.1 x 16	✔	BP36V60A
OL2200XL	2200/ 1800	18/6	60-150	40–70	L5-30P	5-20R (6) L5-20R (1)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	8.3 x 13.3 x 16.3	✔	BP72V60A
OL3000XL	3000/ 2700	9/3	60-150	40–70	L5-30P	5-20R (6) L5-30R (1)	100, 110, 115, 120, 125 ±2%	50/60 ±0.25%		10	8.3 x 13.3 x 16.3	✔	BP72V60A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP36V60ART2U	OL1000RTXL2U, OL1500RTXL2U	5 Hours	36V	12V/9.0AH (6)	17 x 3.5 x 16.9	50.6	3 Years
BP72V60ART2U	OL2200RTXL2U, OL3000RTXL2U	5 Hours	72V	12V/9.0AH (12)	17 x 3.5 x 23.6	96.8	3 Years
BP36V60A	OL1000XL, OL1500XL	5 Hours	36V	12V/9.0AH (6)	6.3 x 9.1 x 16	48.5	3 Years
BP72V60A	**OL2200XL, OL3000XL**	**5 Hours**	**72V**	**12V/9.0AH (12)**	**8.3 x 13.3 x 16.3**	**97**	**3 Years**

Smart App Sinewave

750VA – 6000VA Rackmount & Rack/Tower Convertible PR Models

Waveform Output

Sine Wave

Typical Applications

- Corporate Servers
- Department Servers
- Storage Appliances
- Network Devices
- Telecom Installations

Features

- Line-Interactive Topology
- Pure Sine Wave Output
- 100% Active PFC Compatible
- Full Buck/Boost AVR
- Rotatable Multifunction Panel
- GreenPower UPS Bypass Design
- PowerPanel Business Software

ENERGY STAR

Smart App Sinewave rackmount and rack/tower UPS models, with Line-Interactive topology, fulfill the demands of corporate and departmental applications with pure sine wave output. Offering Active PFC power source compatibility, these units correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Pure Sine Wave Output — Provide power protection to Energy Star 5.0 systems with Active PFC power supplies.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions with full buck/boost technology, delivering clean and consistent AC power to your electrical installations.

Multifunction Display Panel — Quickly and easily monitor all critical UPS operating parameters. Rotatable panel on 2U models permits status checking whether the UPS is installed vertically or horizontally.

GreenPower UPS™ Bypass Design — Save UPS energy costs by reducing energy consumption and heat buildup.

Rack/Tower Versatility — Adapt to changing needs with horizontal rack or vertical tower installation options. Not available on 1U models.

Remote Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

Efficient Remote Management

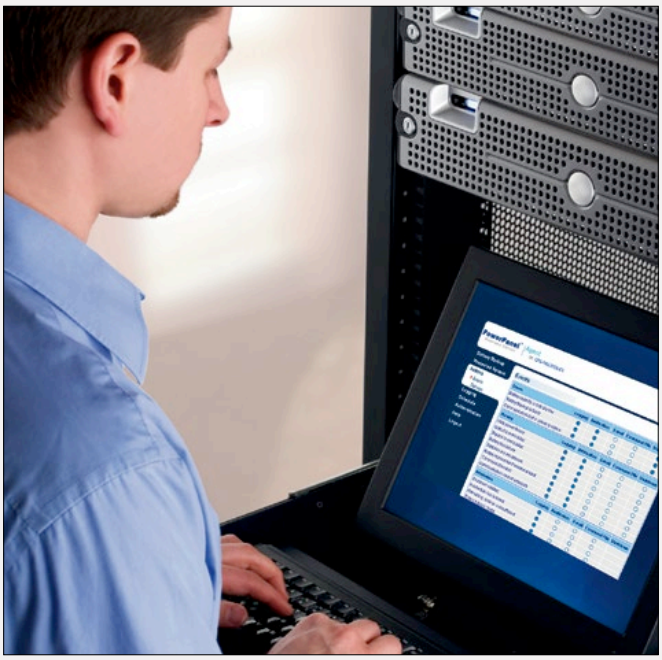
The Smart App Series includes full-featured network UPS management capabilities using the included PowerPanel Business Edition software suite and an optional SNMP/network management card. These remote management tools enable centralized UPS management, monitoring, control and configuration, as well as safe shutdown of connected servers, workstations and other devices via a standard web browser or network management system (NMS). *See pages 36 and 37 for more details.*

Safe Shutdown

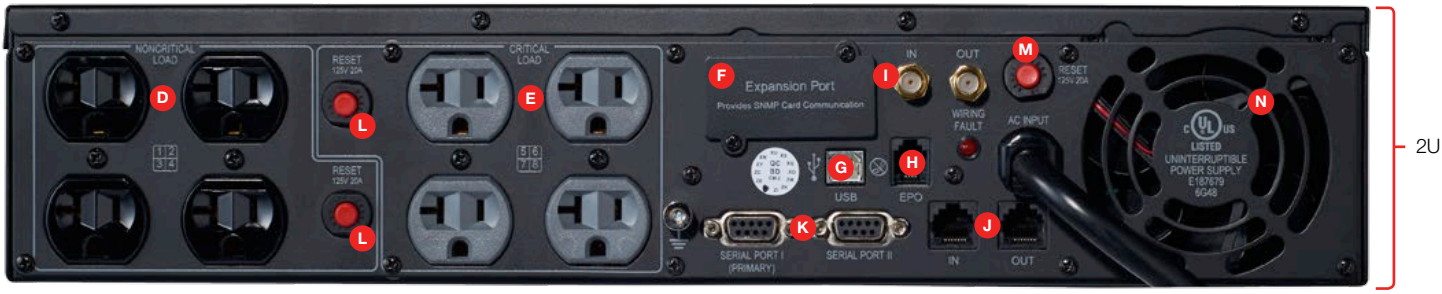
The PowerPanel Business Edition software suite, included with every Smart App Sinewave UPS, enables an administrator to remotely manage every aspect of the UPS and facilitate the orderly automatic shutdown of connected equipment in the event of an extended power outage.
The software also provides comprehensive network power management for corporate servers and critical workstations supported by the UPS, such as: application/OS shutdown, event logging, reporting, alerts and notifications.

Programmable Outlet Control

Smart App UPS systems allow programming of critical outlets over secondary outlets. This gives administrators the ability to prioritize outlets and increase battery backup runtimes for the most critical equipment during extended power outages. Programmable outlet control also gives the administrator the option to delay-start the UPS, permitting the full recharge of its internal batteries before power is restored. This feature is vital to datacenter installations where seamless, uninterrupted equipment boot-up is a necessity.



PR750LCDRM1U / PR1000LCDRM1U



PR2200LCDRT2U

The LCD display panel provides critical load and battery information.

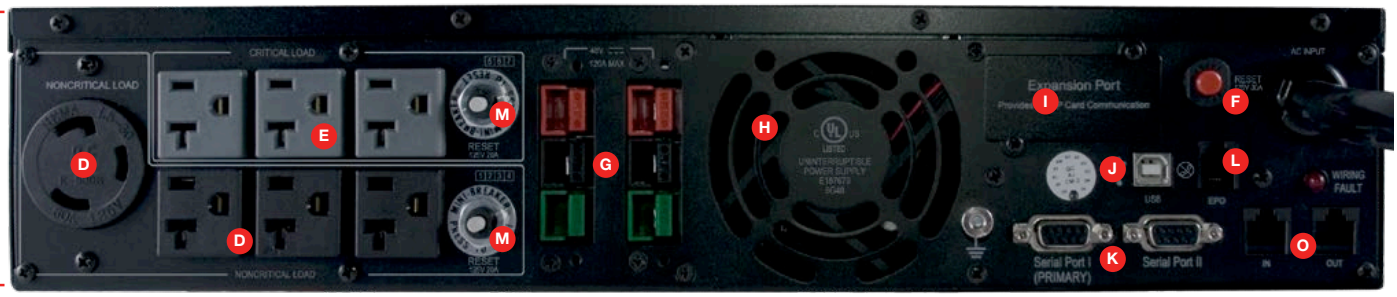
- A Multifunction LCD
- B Power Safety Cover
- C Select Button
- D Noncritical Load Outlets
- E Critical Load Outlets
- F SNMP Slot
- G USB Port
- H EPO Port
- I RG6 Coax Protection
- J RJ11/45 Protection
- K Serial Port
- L Output Breaker
- M Input Breaker
- N Cooling Fan

Rackmount & Rack/Tower UPS Specifications — 750VA – 3000VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
PR750LCDRM1U*	750/ 560	23/7	80–150	50–60±3	5-15P	(6) 5-15R	120±5%	50/60 ±0.1%	HID USB, Serial, SNMP, EPO	10	1U	✔	N/A
PR1000LCDRM1U*	1000/ 750	14/5	80–150	50–60±3	5-15P	(6) 5-15R	120±5%	50/60 ±0.1%		10	1U	✔	N/A
PR1000LCDRT2U ◂	1000/ 700	32/11	80–150	50–60±3	5-15P	(8) 5-15R	120±5%	50/60 ±0.1%		10	2U	✔	N/A
PR1500LCDRT2U ◂	1500/ 1000	18/6	80–150	50–60±3	5-15P	(8) 5-15R	120±5%	50/60 ±0.1%		10	2U	✔	N/A
PR2200LCDRT2U ◂	2170/ 1600	16/6	80–150	50–60±3	5-20P	(8) 5-15/20R	120±5%	50/60 ±0.1%		10	2U	✔	N/A
PR2200LCDRT2U	2150/ 1980	11.5/4.5	80–150	47–63	5-20P	(8) 5-20R	120±5%	50/60 ±1%		10	2U	✔	N/A
PR3000LCDRT2U ◂	3000/ 2250	8/3	80–150	50–60±3	L5-30P	(8) 5-20R (1) L5-30R	120±5%	50/60 ±0.1%		10	2U	✔	BP48V75ART2U ◂

*Rackmount only. ◂ TAA compliant model available.

PR1000LCDRTXL2Ua / PR1500LCDRTXL2U



PR3000LCDRTXL2U

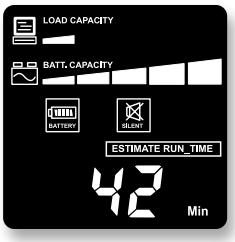
- A Multifunction LCD
- B Power Safety Cover
- C Select Button
- D Noncritical Load Outlets
- E Critical Load Outlets
- F Output Breaker
- G Extended Battery Port
- H Cooling Fan
- I SNMP Port
- J USB Port
- K Serial Ports
- L EPO Port
- M Input Breaker
- N RG6 Coax Protection
- O RJ11/45 Protection

Rack/Tower XL UPS Specifications — 750VA – 3000VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
PR750LCDRTXL2U	750/ 675	30/11.5	80–150	47–63	5-15P	5-15R (8)	120±5%	50/60 ±0.1%	HID USB, Serial, SNMP, EPO	10	2U	✔	BP48V45ART2U
PR1000LCDRTXL2U	1000/ 900	22/7.5	80–150	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%		10	2U	✔	BP48V45ART2U
PR1000LCDRTXL2Ua	1000/ 750	39/18	80–150	50–60±3	5-15P	5-15R (8)	120±5%	50/60 ±0.1%		10	2U	✔	BP48V75ART2U ◂
PR1500LCDRTXL2U ◂	1500/ 1125	24/9	80–150	50–60±3	5-15P	5-15R (8)	120±5%	50/60 ±0.1%		10	2U	✔	BP48V75ART2U ◂
PR1500LCDRTXL2Ua	1500/ 1350	14/4.5	80–150	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%		10	2U	✔	BP48V75ART2U
PR2200LCDRTXL2U ◂	2150/ 1650	14/5	80–150	50–60±3	5-20P	5-15/20R (8)	120±5%	50/60 ±0.1%		10	2U	✔	BP48V75ART2U ◂
PR3000LCDRTXL2U ◂	3000/ 2400	8/3	80–150	50–60±3	L5-30P	5-20R (6) L5-30R (1)	120±5%	50/60 ±0.1%		10	2U	✔	BPL48V75ART2U ◂

◂ TAA compliant model available.

PR5000LCDRTXL5U / PR6000LCDRTXL5U



The LCD display panel provides critical load and battery information.

- A Input Breaker
- B Output Breaker
- C Input Power Cord
- D SNMP Slot
- E Serial Ports
- F USB Port
- G EPO Port
- H RJ11/45 Protection
- Noncritical Load Outlets
- J Critical Load Outlets
- K Extended Battery Port
- L High Volume Fan

Rack/Tower XL UPS Specifications — 5000VA – 6000VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
PR5000LCDRTXL5U ◂	5000/ 4000	31/11	208–240	50–60±3	L6-30P	L6-20R (2) L6-30R (3)	208±5%	60±0.1%	HID USB, Serial, SNMP, EPO	10	5U	✔	BPL48V75ART2U ◂
PR6000LCDRTXL5U	6000/ 4500	26/10	208–240	50–60±3	L6-30P	L6-20R (2) L6-30R (3)	208±5%	60±0.1%		10	5U	✔	BPL48V75ART2U ◂

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP48V45ART2U	PR1000LCDRTXL2U	16 Hours	48V	12V/7AH (8)	17.25 x 3.5 x 15.75	60	3 Years
BP48V75ART2U ◂	PR1000LCDRTXL2Ua, PR1500LCDRTXL2U, PR2200LCDRTXL2U, PR3000LCDRT2U	8 Hours	48V	12V/9AH (8)	17.25 x 3.5 x 19.5	67	3 Years
BPL48V75ART2U ◂	PR3000LCDRTXL2U, PR5000LCDRTXL5U, PR6000LCDRTXL5U	8 Hours	48V	12V/9AH (12)	17.25 x 3.5 x 23.6	96	3 Years

◂ TAA compliant model available.

Smart App Sinewave

750VA – 3000VA Tower & Mini-Tower PR Models

Waveform Output

Sine Wave

Typical Applications

- Corporate Servers
- Department Servers
- Storage Appliances
- Network Devices
- Telecom Installations

Features

- Line-Interactive Topology
- Pure Sine Wave Output
- 100% Active PFC Compatible
- Full Buck/Boost AVR
- Extendable LCD Control Panel
- GreenPower UPS Bypass Design
- PowerPanel Business Software

ENERGY STAR

Smart App Sinewave tower and mini-tower UPS models, with Line-Interactive topology, fulfill the demands of corporate and departmental applications with pure sine wave output. Offering Active PFC power source compatibility, these units correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Pure Sine Wave Output — Provide power protection to Energy Star 5.0 systems with Active PFC power supplies.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions with full buck/boost technology, delivering clean and consistent AC power to your electrical installations.

Extendable LCD Control Panel — Easily check 41 UPS statuses and customizable operating settings from up to 4.5 feet away, with included cable, when the UPS is installed in a hard-to-reach location.

GreenPower UPS™ Bypass Design — Save UPS energy costs by reducing energy consumption and heat buildup.

Tower/Mini-Tower Form Factor — Fit these compact units into the tightest spaces.

Remote Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

GreenPower UPS™ Technology

GreenPower UPS Technology from CyberPower consists of three different energy-saving designs that improve operating efficiency, reduce heat generation and consume less power than conventional UPS models. Users can noticeably reduce their energy costs by using a GreenPower UPS system.

ECO Mode

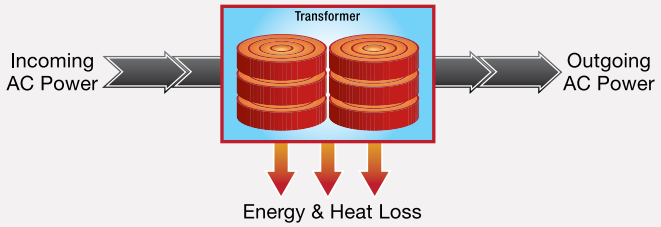
Our ECO Mode is a form of bypass technology that can be switched on full-time, set for noncritical times (such as nights and weekends) or switched off. This design flexibility makes saving power and money an option anytime.

Bypass Design

Our patented bypass design allows current to bypass the transformer and AVR when utility power is normal, thus reducing energy consumption and associated costs. Since most utility power operates normally 88% of the time, this design allows for substantial savings on energy costs. This technology also significantly reduces heat generation, which is an important factor in reducing operating costs.

High-Efficiency Design

Our high-efficiency design significantly reduces power consumption, utilizing a compact charger and power inverter to create an ultra-efficient backup power system for home and office use.



The transformer in a conventional line-interactive UPS loses significant energy as heat is generated during normal utility power output.

GreenPower UPS Technology bypasses the transformer when utility power is normal, reducing energy consumption and heat loss.

PR2200LCD

- A SNMP Port
- B Cooling Fan
- C EPO Port
- D Serial, USB Ports
- E Noncritical Load Outlets
- F Critical Load Outlets
- G Output Breakers
- H Input Breaker
- I Extendable Control Panel
- J Status Icon LEDs
- K LCD Status Panel
- L Setup/Control Buttons

Tower & Mini-Tower UPS Specifications — 750VA – 3000VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
PR750LCD ◂	750/ 525	15/3	75–154	47–63 (auto)	5-15P	5-15R (6)	120±5%	50/60 ±1%	HID USB, Serial, SNMP, EPO	6	N/A	✔	N/A
PR1000LCD ◂	1000/ 700	24.5/7	75–154	47–63 (auto)	5-15P	5-15R (8)	120±5%	50/60 ±1%		8	N/A	✔	N/A
PR1500LCD ◂	1500/ 1050	24/8	75–154	47–63 (auto)	5-15P	5-15R (8)	120±5%	50/60 ±1%		8	N/A	✔	N/A
PR2200LCD ◂	2200/ 1980	26/8	75–154	47–63 (auto)	L5-30P	5-15R (8) 5-20R (2)	120±5%	50/60 ±1%		10	N/A	✔	N/A
PR3000LCD ◂	3000/ 2700	17/6	75–154	47–63 (auto)	L5-30P	5-15R (8) 5-20R (2)	120±5%	50/60 ±1%		10	N/A	✔	N/A

◂ TAA compliant model available.

Smart App LCD

500VA – 2190VA Rackmount & Rack/Tower Convertible OR Models

Waveform Output

Simulated Sine Wave

Typical Applications

- Department Servers
- Workgroup Servers
- Workstations
- Network Devices
- Telecom Appliances

Features

- Line-Interactive Topology
- Simulated Sine Wave Output
- Full Buck/Boost AVR
- Rotatable Multifunction LCD
- GreenPower UPS Bypass Design
- PowerPanel Business Software

Smart App LCD rackmount and rack/tower UPS models, with Line-Interactive topology, address the needs of departmental servers, networking hardware and other equipment capable of using simulated sine wave output. These units correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Simulated Sine Wave Output — Provide cost-effective power protection to servers, telecom and peripheral electronics.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions with full buck/boost technology, delivering clean and consistent AC power to your electrical installations.

Multifunction Display Panel — Quickly and easily monitor all critical UPS operating parameters. Rotatable LCD panel on 2U models permits status checking whether the UPS is installed vertically or horizontally. *Not available on CPS1500AVR.*

GreenPower UPS™ Bypass Design — Save UPS energy costs by reducing energy consumption and heat buildup.

Rack/Tower Versatility — Adapt to changing needs with horizontal rack or vertical tower installation options. Not available on 1U models.

Remote Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

Real-Time UPS Status and Alerts

The multifunction LCD front panel provides immediate, detailed information on the UPS battery and power conditions, alerting users to potential problems before they can affect critical equipment and cause downtime.

Menu Functions

UPS Status — Displays 12 vital UPS parameters including:

- Load/Current Level
- Battery Level
- Battery in Use
- Output Voltage
- Overload
- Silent Mode
- Runtime
- AVR in use (on 2U units only)
- Input Voltage
- Output Frequency
- Wiring Fault (on 2U units only)
- Normal Operation

Rack/tower convertible UPS models (2U) are equipped with a display panel that can be rotated 90 degrees to make the screen easily readable whether the UPS is installed vertically as a tower or horizontally in a rack.

OR500LCDRM1U / OR700LCDRM1U / OR1000LCDRM1U / OR1500LCDRM1U

OR2200LCDRM2U

- A Multifunction LCD
- B Power Safety Cover
- C Select Button
- D Battery & Surge Protected Outlets
- E Surge Protected Outlets
- F SNMP Slot
- G USB Port
- H RG6 Coax Protection
- I RJ11/45 Protection
- J Serial Ports
- K Output Breaker
- L Input Breaker
- M Cooling Fan

Rackmount & Rack/Tower UPS Specifications — 500VA – 2190VA

Simulated Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports (Qty)	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OR500LCDRM1U*	500/ 300	12/3	90–140	57–63	5-15P	5-15R (6)	120±10%	60±1%	HID USB, Serial, SNMP	10	1U	✔	N/A
OR700LCDRM1U*	700/ 400	11/3	90–140	57–63	5-15P	5-15R (6)	120±10%	60±1%		10	1U	✔	N/A
OR1000LCDRM1U*	1000/ 600	13/3	90–140	57–63	5-15P	5-15R (6)	120±10%	60±1%		10	1U	✔	N/A
OR1500LCDRM1U*	1500/ 900	11/2	90–140	57–63	5-15P	5-15R (6)	120±10%	60±1%		10	1U	✔	N/A
OR1500LCDRM2U	1500/ 900	18/6	90–140	47–63	5-15P	5-15R (8)	120±10%	60±1%	HID USB, Serial (x2), SNMP	10	2U	✔	N/A
OR2200LCDRM2U	2000/ 1320	13/5	90–140	47–63	5-20P	5-20R (8)	120±10%	60±1%		10	2U	✔	N/A
OR1500LCDRTXL2U	1500/ 1125	18/7	90–140	47–63	5-15P	5-15R (8)	120±10%	60±1%		10	2U	✔	BP48V75ART2U ◂
OR2200LCDRTXL2U	2190/ 1650	15/6	90–140	47–63	5-20P	5-20R (8)	120±10%	60±1%		10	2U	✔	BP48V75ART2U ◂
CPS1500AVR	1500/ 920	18/6	85–150	47–63	5-15P	5-15R (6)	120±10%	60±1%	Serial (x2), SNMP	10	2U	N/A	N/A

Extended Battery Module							Visit website for added runtimes.
Model	UPS Compatibility	Recharge Time	Voltage	Battery (Qty)	Dimensions WxHxD (in)	Weight (lbs)	Warranty
BP48V75ART2U	OR1500LCDRTXL2U, OR2200LCDRTXL2U	8 Hours	48V	12V/9AH (8)	17.25 x 3.5 x 19.5	67	3 Years

*Rackmount only. ◂ TAA compliant model available.

PFC Sinewave

1500VA – 2200VA Rack/Tower Convertible OR Models

Waveform Output

Sine Wave

Typical Applications

- Department Servers
- Workgroup Servers
- Network Devices
- Telecom Appliances
- High-End Audio/Video

Features

- Line-Interactive Topology
- Pure Sine Wave Output
- 100% Active PFC Compatible
- Automatic Voltage Regulation
- Rotatable Multifunction LCD
- GreenPower UPS Bypass Design
- PowerPanel Business Software

ENERGY STAR

PFC Sinewave rack/tower UPS models, with Line-Interactive topology, provide pure sine wave output to department servers, networking and telecommunications hardware and high-end audio/video equipment requiring Active PFC power source compatibility.
These units correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Pure Sine Wave Output — Provide power protection to Energy Star 5.0 systems with Active PFC power supplies.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions by delivering clean and consistent AC power to your electrical installations.

Multifunction LCD Display Panel — Quickly and easily monitor all critical UPS operating parameters. Rotatable LCD panel permits status checking whether the UPS is installed vertically or horizontally.

GreenPower UPS™ Bypass Design — Save UPS energy costs by reducing power consumption and heat buildup.

Rack/Tower Versatility — Adapt to changing needs with horizontal rack or vertical tower installation options.

Power Management — PowerPanel® Business Edition management software provides unsurpassed control and protection of the UPS and connected equipment and allows for remote management of the protected devices on the network.

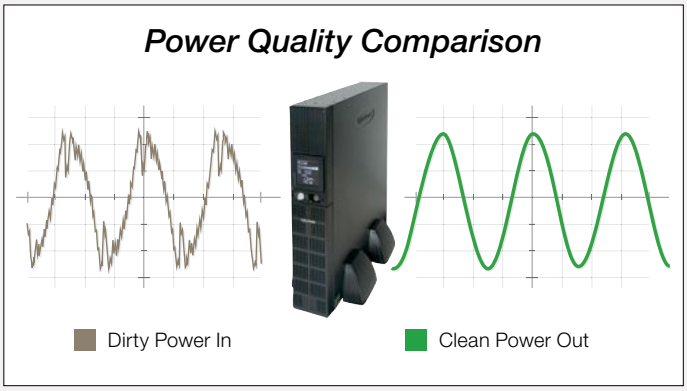
Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

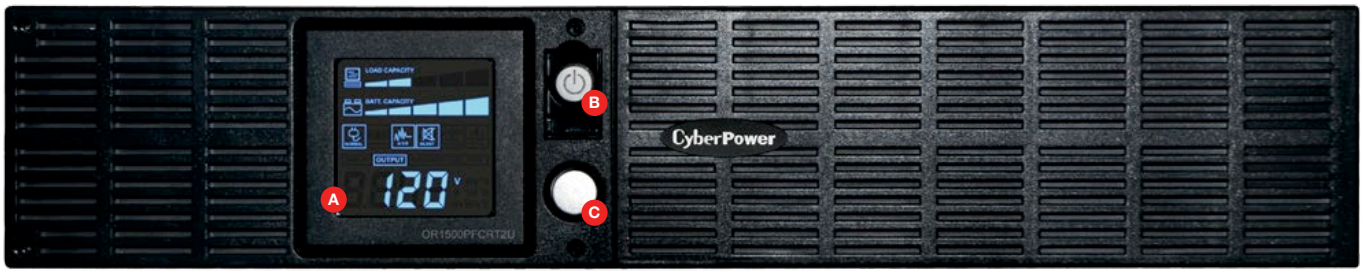
Sine Wave Power

In the U.S., utility companies serve the needs of households and offices by distributing single phase alternating current (AC) power at a frequency of 60 Hz. A graphical depiction of electrical power appears as a sine wave whereby the electrical signal alternates from +120 volts to -120 volts at a rate of 60 times per second (60 Hz). To enable more efficient operation of large, heavy equipment, utility companies provide commercial and industrial locations with three phase AC power which consists of three overlapping sine waves offset by 120 degrees.

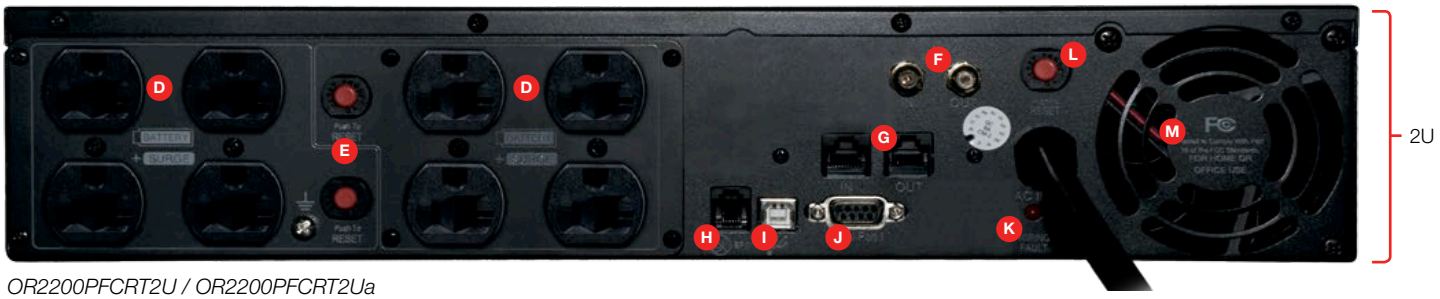
While utility companies strive to distribute 100% sine wave power, multiple factors can introduce electrical noise into the AC power signal in the form of voltage sags, surges or spikes and various sine wave distortions. Sine wave power is important for the functioning of portable and desktop computers and related peripheral equipment. Without sine wave power output, microprocessor-based equipment can become inoperative or sustain damage with power signal distortions of more than 10%.



Computers incorporating Active PFC power supplies in their design architecture require optimal power quality to function properly.



OR1500PFCRT2U



OR2200PFCRT2U / OR2200PFCRT2Ua

The LCD display panel provides critical load and battery information regardless of the units vertical or horizontal orientation.

- A Multifunction LCD
- B Power Switch Safety Cover
- C Select Button
- D Battery & Surge Protected Outlets
- E Output Breaker
- F RG6 Coax Protection
- G RJ45 Protection
- H EPO Port
- I USB Port
- J Serial Port
- K Wiring Fault Indicator
- L Input Breaker
- M Cooling Fan

Rack/Tower UPS Specifications — 1500VA – 2200VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
OR1500PFCRT2U	1500/ 900	21/7	86–142	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB, Serial, SNMP, EPO	10	2U	✔	N/A
OR2200PFCRT2U	2000/ 1320	20/8	86–142	47–63	5-20P	5-20R (8)	120±5%	50/60 ±1%		10	2U	✔	N/A
OR2200PFCRT2Ua	2200/ 1320	20/8	86–142	47–63	L5-30P	5-20R (8)	120±5%	50/60 ±1%		10	2U	✔	N/A

PFC Sinewave

850VA – 1500VA Mini-Tower CP Models

Waveform Output

Sine Wave

Typical Applications

- Desktop Computers
- Workstations
- Personal Electronics
- Home Networking/VoIP
- High-End Audio/Video

Features

- Line-Interactive Topology
- Pure Sine Wave Output
- 100% Active PFC Compatible
- Automatic Voltage Regulation
- Multifunction Display Panel
- GreenPower UPS Bypass Design
- Ultra-Quiet Design
- PowerPanel Personal Software

ENERGY STAR

PFC Sinewave mini-tower UPS models, with Line-Interactive topology, provide pure sine wave output to individual work areas, home networking hardware and devices, entertainment electronics and equipment requiring Active PFC power source compatibility. These units correct minor power fluctuations without switching to battery thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Pure Sine Wave Output — Provide power protection to Energy Star 5.0 systems with Active PFC power supplies.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions by delivering clean and consistent AC power to your computers, workstations and peripherals.

Multifunction LCD Display Panel — Quickly and easily monitor all critical UPS operating parameters.

GreenPower UPS™ Bypass Design — Save UPS energy costs by reducing power consumption and heat buildup.

Ultra-Quiet Design — Minimize UPS sound emission for a quieter work environment.

USB Charging Ports — Charge smartphones and other devices using ports conveniently located on the front of higher capacity mini-towers.

Computer Monitoring — Safeguard open files and equipment with PowerPanel® Personal Edition management software that features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS.

Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

Active Power Factor Correction Power Supplies for IT Equipment

With the growth of computer and peripheral equipment in businesses and homes over the last 30 years the awareness of the amount of energy these devices use has also increased.

The power consumed by desktop computers and workstations for many years was inefficient. One factor contributing to the inefficiency was the design architecture of the power supplies. The power supply transforms AC power from the wall to DC power used by computers. This voltage transformation was relatively inefficient as reflected in low power factor ratings. In 1992, the U.S. EPA, in conjunction with the IT industry, developed the ENERGY STAR program to drive the development of energy efficient products. Today the program is recognized as an international standard for energy efficient consumer products.

To comply with ENERGY STAR standards, desktop computer and workstation manufacturers incorporate Active Power Factor Correction into their engineering designs enabling energy efficiencies of 95% or greater to be achieved. Computers with Active PFC power supplies require pure sine wave AC power, as supplied by utility companies, for trouble free operation making pure sine wave UPS systems the recommended choice for backup power. Simulated sine wave power, provided by entry-level UPS systems, may be incompatible with Active PFC devices. Pure sine wave power varies continuously from positive to negative (Figure 1) while simulated sine wave power mimics a pure sine wave using a squared-off approximation (Figure 2). Due to this approximation, simulated sine wave power creates a zero power gap for a momentary length of time. When power is interrupted, a computer with an Active PFC power supply may not recognize incoming simulated sine wave power and unexpectedly shut down or sustain system component stress.

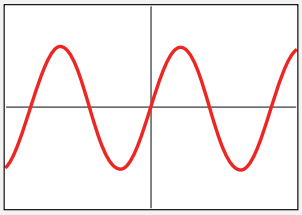


Figure 1

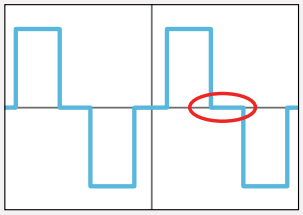


Figure 2

10.4”

CP1500PFCLCD

- A RG6 Coax Protection
- B RJ11/45 Protection
- C Communication Ports
- D Wiring Fault Indicator
- E Battery & Surge Protected Outlets
- F Surge Protected Outlets
- G Input Breaker
- H Tamper-Proof Power Button
- I LCD Status Panel
- J Setup & Control Buttons
- K USB Charging Ports

Mini-Tower UPS Specifications — 850VA – 1500VA

Pure Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports (Qty)	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
CP850PFCLCD	850/ 510	8/2	90–139	57–63	5-15P	5-15R (10)	120±5%	60±1%	HID USB, Serial	5	N/A	✔	N/A
CP1000PFCLCD ◂	1000/ 600	9/3	90–139	57–63	5-15P	5-15R (10)	120±5%	60±1%		5	N/A	✔	N/A
CP1350PFCLCD	1350/ 810	9/3	90–139	57–63	5-15P	5-15R (10)	120±5%	60±1%	HID USB, Serial, (2) Front USB 5V/1A	5	N/A	✔	N/A
CP1500PFCLCD ◂	1500/ 900	11/2	90–139	57–63	5-15P	5-15R (10)	120±5%	60±1%		5	N/A	✔	N/A

◂ TAA compliant model available.

Intelligent LCD

600VA – 1500VA Mini-Tower & Compact CP Models

Waveform Output

Simulated Sine Wave

Typical Applications

- Desktop Computers
- Workstations
- Personal Electronics
- Home Networking/VoIP

Features

- Line-Interactive or Standby Topology
- Simulated Sine Wave Output
- Automatic Voltage Regulation
- Multifunction Display Panel
- GreenPower UPS Bypass or High-Efficiency Design
- Ultra-Quiet Design
- PowerPanel Personal Software

ENERGY STAR

Intelligent LCD mini-tower UPS models with Line-Interactive topology, and compact UPS models with Standby topology, provide simulated sine wave output to individual work areas and home entertainment systems without Active PFC power supplies. These units correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Simulated Sine Wave Output — Provide cost-effective power protection for servers, telecom and peripheral electronics.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions by delivering clean and consistent AC power to your computers, workstations and peripherals.

Multifunction LCD Display Panel — Quickly and easily monitor all critical UPS operating parameters.

GreenPower UPS™ Bypass or High-Efficiency Design — Save UPS energy costs by reducing power consumption and heat buildup.

Ultra-Quiet Design — Minimize UPS sound emission for a quieter work environment.

Computer Monitoring — Safeguard open files and equipment with PowerPanel® Personal Edition management software that features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS.

Essential Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike

Professional Protection

Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike | Under Voltage

Power Protection without the Noise

Ultra-Quiet Design

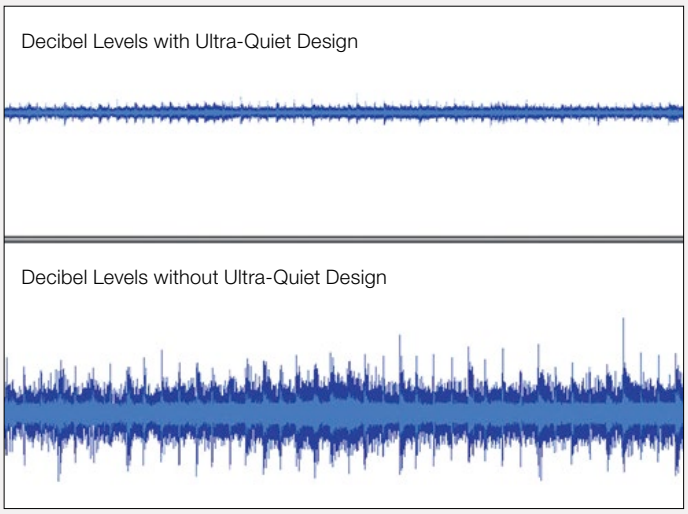
High-efficiency ventilation, GreenPower UPS™ technology and innovative system components comprise the Ultra-Quiet Design found in CyberPower UPS models designed for home or office desktop applications, audio/video installations and quieter work environments.

Noise Filtering

For improved picture and sound quality in audio/video systems, CyberPower uses advanced EMF/RFI noise filtering coils to reduce electromagnetic and radio frequency interference problems. These filters smooth out minor current fluctuations which cause disruptive humming and static.

Line Conditioning

Prolong the life of sensitive electronic equipment with line conditioning (AVR) technology that continually adjusts the incoming AC current, keeping it within safe levels and reducing stress caused by power fluctuations.



CP1500AVRLCD

CP825AVRLCD

- A RJ11/45 Protection
- B RG6 Coax Protection
- C Communication Ports
- D Wiring Fault Indicator
- E Battery & Surge Protected Outlets
- F Surge Protected Outlets
- G Input Breaker
- H Power Button
- I Power Indicator
- J LCD Panel
- K Mode Button

Mini-Tower & Compact UPS Specifications — 600VA – 1500VA

Simulated Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
CP600LCD*	600/ 340	9/2	100–140	57–63	5-15P	5-15R (8)	120±5%	60±1%	HID USB	6	N/A	N/A	N/A
CP750LCD* ◂	750/ 420	10/3	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
CP825LCD*	825/ 450	8/2	100–140	57–63	5-15P	5-15R (8)	120±5%	60±1%	HID USB	6	N/A	N/A	N/A
CP685AVRLCD	685/ 390	10/2	90–140	60±3	5-15P	5-15R (8)	120±5%	60±1%	HID USB	6	N/A	✔	N/A
CP825AVRLCD	825/ 450	8/2	90–140	60±3	5-15P	5-15R (8)	120±5%	60±1%	HID USB	6	N/A	✔	N/A
CP850AVRLCD	850/ 510	7/1	90–140	60±3	5-15P	5-15R (9)	120±5%	60±1%	HID USB, Serial	6	N/A	✔	N/A
CP1000AVRLCD	1000/ 600	6/1	90–140	60±3	5-15P	5-15R (9)	120±5%	60±1%	HID USB, Serial	6	N/A	✔	N/A
CP1350AVRLCD	1350/ 810	9/2	90–140	60±3	5-15P	5-15R (8)	120±5%	60±1%	HID USB, Serial	6	N/A	✔	N/A
CP1500AVRLCD	1500/ 900	11/3	90–140	60±3	5-15P	5-15R (8)	120±5%	60±1%	HID USB, Serial	6	N/A	✔	N/A

*Unit is non-AVR and uses Standby topology. ◂ TAA compliant model available.

AVR

685VA – 1500VA Mini-Tower & Compact CP Models

Waveform Output

Simulated Sine Wave

Typical Applications

- Desktop Computers
- Workstations
- Personal Electronics
- Home Networking/VoIP

Features

- Line-Interactive Topology
- Simulated Sine Wave Output
- Automatic Voltage Regulation
- GreenPower UPS Bypass or High-Efficiency Design
- Ultra-Quiet Design
- PowerPanel Personal Software

ENERGY STAR

AVR mini-tower and compact UPS models, with Line-Interactive topology, provide simulated sine wave output to individual home and small office computer systems.
These models correct minor power fluctuations without switching to battery, thereby extending battery life—essential in areas where power fluctuations occur frequently.

Key User Benefits

Simulated Sine Wave Output — Provide cost-effective power protection to servers, telecom and peripheral electronics.

Automatic Voltage Regulation (AVR) — Protect connected equipment and prevent costly business interruptions by delivering clean and consistent AC power to your computers, workstations and peripherals.

GreenPower UPS™ Bypass or High-Efficiency Design — Save UPS energy costs by reducing power consumption and heat buildup.

Ultra-Quiet Design — Minimize UPS sound emission for a quieter work environment.

Computer Monitoring — Safeguard open files and equipment with PowerPanel® Personal Edition management software that features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS.

Professional Protection

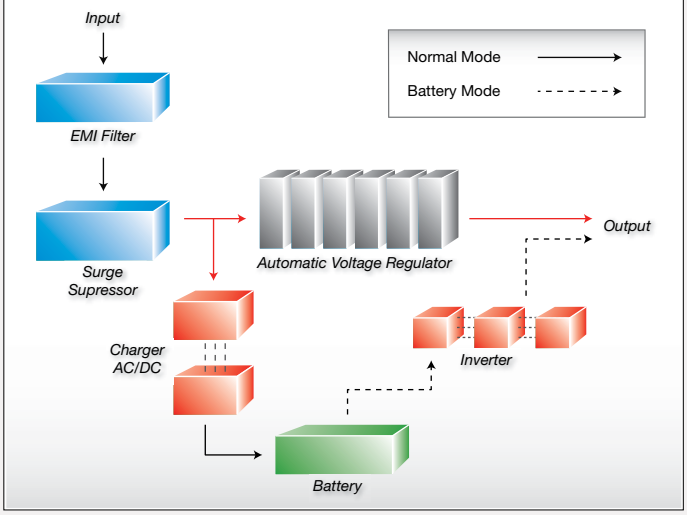
Automatic Voltage Regulation

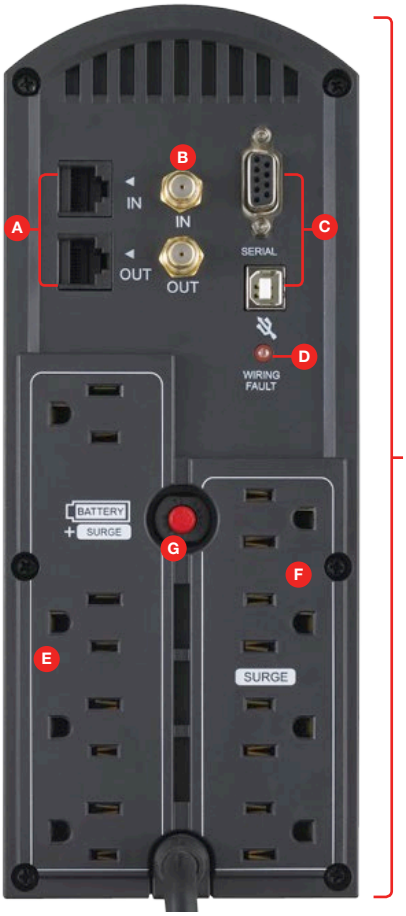
Automatic Voltage Regulation (AVR) in line-interactive UPS systems stabilizes the incoming AC signal—controlling high and low voltages—to maintain output power at a nominal 120 volts, without resorting to battery power. This significantly increases battery life and reduces the likelihood of data loss, memory freezes and system crashes.

How AVR works in a Line-Interactive UPS

A line-interactive UPS includes an AVR autotransformer, a special type of transformer designed to add or subtract powered coils of wire in response to variances in utility power input, thereby increasing or decreasing the magnetic field and the resulting output voltage to connected equipment. This type of UPS can tolerate undervoltage brownouts and overvoltage surges, without consuming reserve battery power by automatically selecting different power taps on the AVR autotransformer. In normal operation, incoming AC current passes through the autotransformer where highs and lows are controlled, while also charging the internal storage battery. When the incoming voltage falls below a predetermined level, the UPS switches to battery back-up and the DC-AC inverter circuitry is engaged. Power will continue to be supplied by the battery-inverter circuit until incoming voltage returns to within the AVR manageable range.

AVR Function Diagram





CP1500AVRT

CP825AVRG

- **A** RJ11/45 Protection
- **B** RG6 Coax Protection
- **C** Communication Ports
- **D** Wiring Fault Indicator
- **E** Battery & Surge Protected Outlets
- **F** Surge Protected Outlets
- **G** Input Breaker
- **H** Power Button
- **I** Power Indicator

Mini-Tower & Compact UPS Specifications — 685VA – 1500VA

Simulates Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
CP685AVRG	685/ 390	10/2	90–140	60±1%	5-15P	5-15R (8)	120±5%	60±0.1	HID USB, Serial	6	N/A	✔	N/A
CP825AVRG	825/ 450	8/2	90–140	60±1%	5-15P	5-15R (8)	120±5%	60±1%	HID USB, Serial	6	N/A	✔	N/A
CP900AVR	900/ 560	12/3	90–140	60±3	5-15P	5-15R (8)	120±5%	60	HID USB, Serial	6	N/A	✔	N/A
CP1200AVR	1200/ 720	12/3	90–140	60±3	5-15P	5-15R (8)	120±5%	60	HID USB, Serial	6	N/A	✔	N/A
CP1500AVRT	1500/ 900	11/3	90–140	60±3	5-15P	5-15R (9)	120±5%	60	HID USB, Serial	6	N/A	✔	N/A

Ecologic

350VA – 850VA Compact EC Models

Waveform Output

Simulated Sine Wave

Typical Applications

- Desktop Computers
- Workstations
- Personal Electronics
- Home Networking/VoIP

Features

- Standby Topology
- ECO Mode Outlets
- Simulated Sine Wave Output
- Multifunction LCD Panel
- GreenPower UPS High-Efficiency Design
- Ultra-Quiet Design
- PowerPanel Personal Software

The Ecologic UPS series, with Standby topology, provide simulated sine wave output to individual home and small office computer systems. These models offer reliable lightning protection and battery backup during power interruptions, brownouts and blackouts.

Key User Benefits

Simulated Sine Wave Output — Provide cost-effective power protection to servers, telecom and peripheral electronics.

ECO Mode Outlets — Energy-saving ECO mode turns off power to peripherals connected to the ECO outlets when the UPS detects the computer is turned off or is in sleep mode.

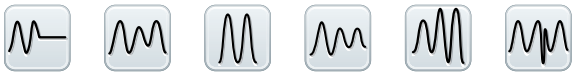
Multifunction LCD Panel — Provides quick, easy setup and monitoring of the UPS. EC650LCD and EC850LCD models only.

GreenPower UPS™ High-Efficiency Design — Save UPS energy costs by reducing power consumption and heat buildup.

Ultra-Quiet Design — Minimize UPS sound emission for a quieter work environment.

Computer Monitoring — Safeguard open files and equipment with PowerPanel® Personal Edition management software that features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS.

Essential Protection



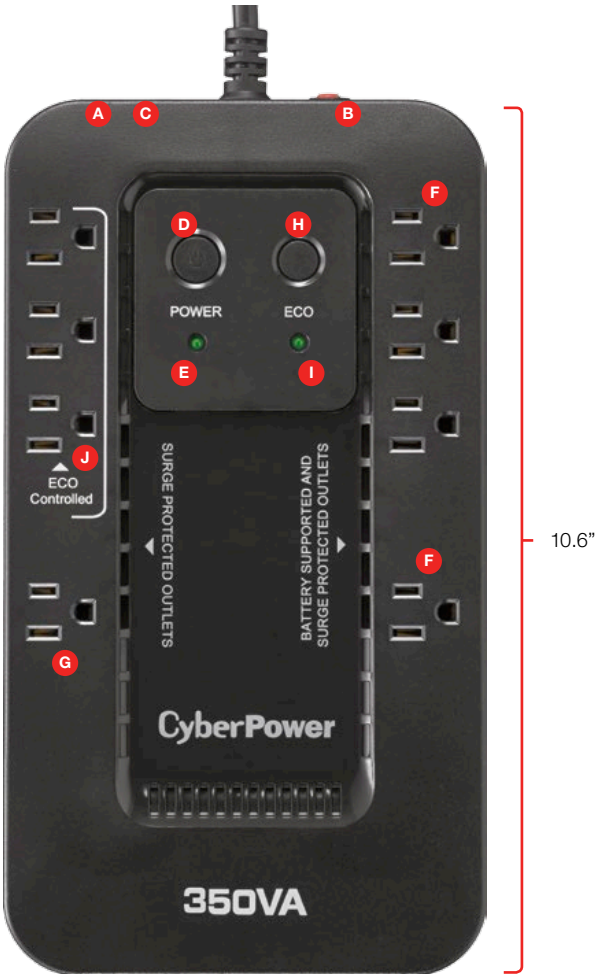
Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike

Energy-saving ECO Mode

The Ecologic UPS Series offers energy-conserving ECO Mode functionality and surge protected ECO outlets. These outlets are specifically designed to provide energy and cost saving benefits. It's easy to use the ECO Mode technology. Activate the ECO outlets by pressing the ECO Mode button on the front of the UPS. When ECO Mode is turned on (and the computer is properly connected to the UPS), the UPS can detect when the attached computer is turned off or in sleep mode. The UPS will then safely remove power from the ECO outlets to shut down the connected devices, reducing power usage and providing additional energy savings.

ECO outlets provide easy-to-use flexibility and cost savings. If you need to use the ECO outlets as standard surge-protected outlets, simply turn off ECO Mode. When activated, ECO mode helps to reduce energy waste by removing AC power to unused connected equipment. CyberPower's ECO Mode outlet technology combined with ENERGY STAR® complaint GreenPower UPS high-efficiency design improves cost savings, reduces heat dissipation and provides quiet and eco-friendly power protection.

EC850LCD



EC350G

- **A** Communication Port
- **B** Input Breaker
- **C** RJ11 Protection
- **D** Power Button
- **E** Power Indicator
- **F** Battery & Surge Protected Outlets
- **G** Surge Protected Outlets
- **H** ECO Button
- **I** ECO Indicator
- **J** ECO Controlled Outlets

Compact UPS Specifications — 350VA – 850VA

Simulated Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
EC350G*	350/ 255	6/2	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
EC550G*	550/ 330	7/2	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
EC750G*	750/ 450	8/1	96–140	47–63	5-15P	5-15R (12)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
EC650LCD*	650/ 390	8/2	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
EC850LCD*	850/ 510	6/1	96–140	47–63	5-15P	5-15R (12)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A

*PowerPanel® UPS software available at CPSww.com for download.

Standby

350VA – 625VA Compact CP Models

Waveform Output

Simulated Sine Wave

Typical Applications

- Desktop Computers
- Workstations
- Personal Electronics
- Home Networking/VoIP

Features

- Standby Topology
- Simulated Sine Wave Output
- GreenPower UPS High-Efficiency Design
- Ultra-Quiet Design
- PowerPanel Personal Software

Standby compact UPS models, with Standby topology, provide simulated sine wave output to individual home and small office computer systems. These models offer reliable lightning protection and battery backup during power interruptions, brownouts and blackouts.

Key User Benefits

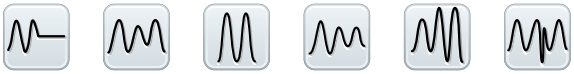
Simulated Sine Wave Output — Provide cost-effective power protection to servers, telecom and peripheral electronics.

GreenPower UPS™ High-Efficiency Design — Save UPS energy costs by reducing power consumption and heat buildup.

Ultra-Quiet Design — Minimize UPS sound emission for a quieter work environment.

Computer Monitoring — Safeguard open files and equipment with PowerPanel® Personal Edition management software that features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS.

Essential Protection



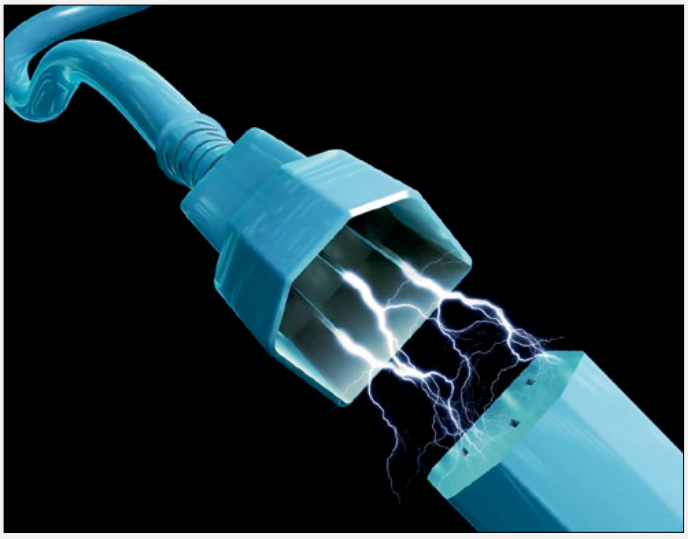
Power Blackout | Voltage Sag | Voltage Surge | Voltage Brownout | Over Voltage | Voltage Spike

ENERGY STAR

Surge Protection

Utility power supplied to electrical outlets is not consistent 100% of the time and the short duration voltage surges or spikes that occasionally happen can cause damage to sensitive components in electronic devices such as computers and workstations. In addition to equipment damage, the potential for irretrievable data loss is high. In the U.S., the nominal or standard voltage supplied to household and office wiring is 120 volts. A voltage surge or spike can cause electronic components to overheat, either destroying them immediately or causing permanent damage that can lead to premature failure.

Protection can be easily provided in the form of a surge protector (also called a surge suppressor), a device located in the power circuit between the utility power outlet and the connected electronic equipment. Surge protectors work by diverting excess voltage to ground, allowing only the nominal voltage to pass through the wiring to connected devices. This is accomplished using a variable resistance component in the surge protector called a metal oxide varistor, or MOV. Under normal voltage conditions, the resistance of the MOV is such that it remains closed. As utility voltage increases beyond nominal however, the MOV resistance decreases accordingly, forcing the unwanted overvoltage to ground, maintaining a constant flow of nominal voltage to sensitive electronic equipment.



Lightning, a key source of voltage spikes, strikes the ground about 100 times each second, or 8 million times a day. –The National Severe Storms Laboratory

CP550SLG

CP350SLG

- A Communication Ports
- B Input Breaker
- C Wiring Fault Indicator
- D RJ45/RJ11 Protection
- E Power Button
- F Power Indicator
- G Battery & Surge Protected Outlets
- H Surge Protected Outlets

Compact UPS Specifications — 350VA – 625VA

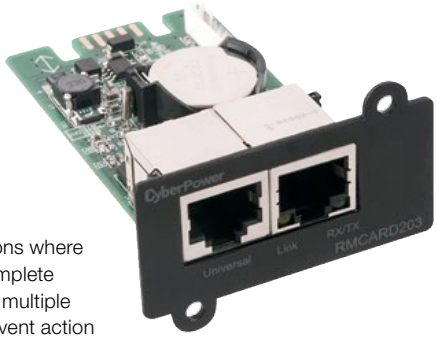
Simulated Sine Wave Models			Input			Output				General			
Model	Capacity (VA/ Watts)	Runtime Half/Full Load (Min)	Voltage Range (VAC)	Frequency Range (Hz)	NEMA Plug Type	NEMA Outlet Type (Qty)	On Battery Voltage (VAC)	On Battery Frequency (Hz)	Comm. Ports	Cord Length (ft)	Rack Size	Energy Saving	Compatible Extended Battery Module
CP350SLG*	350/ 255	8/2	96–140	47–63	5-15P	5-15R (6)	120±5%	50/60 ±1%	N/A	5	N/A	✔	N/A
CP425SLG	425/ 255	7/2	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A
CP550SLG ◂	550/ 330	8/2	96–140	47–63	5-15P	5-15R (8)	120±5%	50/60 ±1%	HID USB	5	N/A	✔	N/A

*Does not include PowerPanel® Software.

◂ TAA compliant model available.

Network Power Management

Hardware



Typical Applications

- Data Centers
- Telecom Installations
- Storage Farms
- IT Closets
- Rack Installations

Features

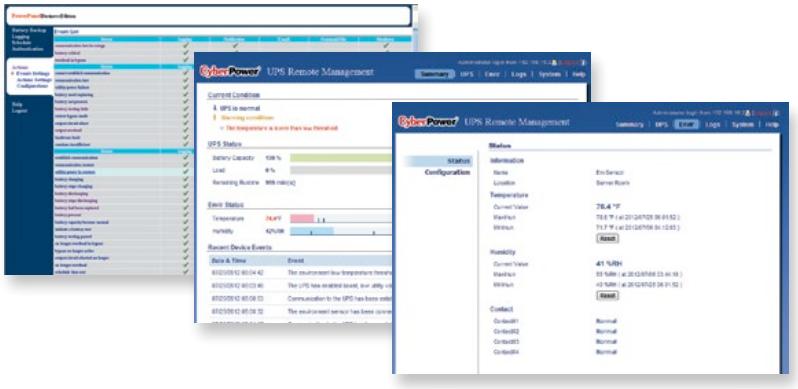
- Remote Scheduling of UPS Operation
- Automatic Event Notification
- User-Upgradable Firmware via FTP
- TCP/IP, UDP, SNMP/HTTP, NTP and SMTP
- Auto-Shutdown
- Flexible Event Action Settings
- Multiple Alert Notifications
- 10Mbps or 10/100Mbps Ethernet Compatible
- Event Logging
- Quick Installation
- User-Friendly Software Interface

Remote Management Card

An optional Remote Management Card (RMCARD) may be added to any of the Smart App UPS systems to allow for remote management and configuration of the UPS via standard web browser or network management system (NMS). Especially suited to enterprise installations where the administrator may not be on-site, remote management offers complete control, including: scheduling of UPS shutdown, startup and reboot; multiple alert notification by email, Windows Messenger and XMPP; flexible event action setting; event logging and automatic event notification sent through SNMP trap.

Environmental Sensor

For real-time temperature and humidity readings of a datacenter, IT closet and other critical environments combine the Environmental Sensor (ENVIROSENSOR) with the Remote Management Card (RMCARD203). Administrators can define temperature parameters in Fahrenheit or Celsius. For example, rising temperatures will prompt the RMCARD to send a predefined notification. The ENVIROSENSOR can also monitor up to four other connected devices such as security systems, switches and door alarms.



Remote Management Card Specifications

Model	Remote Mgmt.	Auto Shutdown	Upgradable User Firmware	Auto Event Notification	Remote Scheduling	Ethernet Speeds (Mbps)	Auto Shutdown Clients	Environmental Sensor Compatible
RMCARD100	HTTP, NMS	Workstations Multiple Servers	N/A	SNMP TRAP	Shutdown, Startup, Reboot	10	10	N/A
RMCARD202 ◂	HTTP, NMS	Workstations Multiple Servers	✔	SMTP, SMS, SNMP TRAP	Shutdown, Startup, Reboot	10/100	50	N/A
RMCARD203	HTTP, NMS	Workstations Multiple Servers	✔	SMTP, SMS, SNMP TRAP	Shutdown, Startup, Reboot	10/100	50	✔
RMCARD302	HTTP, NMS	Workstations Multiple Servers	✔	SMTP, SMS, SNMP TRAP	Shutdown, Startup, Reboot	10/100	50	N/A

Environmental Sensor — For additional model specifications visit our website.

Model	RMCARD Compatibility	Temperature Accuracy	Humidity Accuracy	Voltage	Dimensions WxHxD (in)	Weight (oz)	Warranty
ENVIROSENSOR	RMCARD203	32°F – 158°F ± 1.8°F	10 – 90 RH ± 2%	12V	2.24 x 1.46 x 1.15	1.16	3 Years

◂ TAA compliant model available.

Network Power Management

Software

Typical Applications

- Data Centers
- Telecom Installations
- Storage Farms
- IT Closets
- Rack Installations
- Business Workstations
- Desktop Computers

Features

- Remote Access via Web Browser
- Network Protocol Support
- Flexible Event Action Settings
- Auto-Shutdown
- Remote Scheduling
- Event Logging
- Security Management
- Quick Installation
- User-Friendly Interface

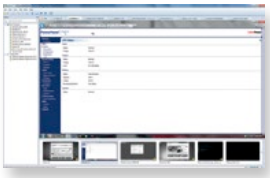
PowerPanel® Software by CyberPower

PowerPanel software, included with all compatible CyberPower UPS Systems, monitors and controls a UPS with a simple dashboard interface.

PowerPanel Business Edition

PowerPanel Business Edition software provides IT professionals with the tools they need to easily monitor and manage their backup power. This advanced software allows users remote access from any network PC with a web browser to instantly access vital UPS battery conditions, load levels and runtime information as well as provide graceful unattended shut down of network computers and virtual machines connected to a battery backup during a power event. Power alerts can be set up to send notifications though email, text or instant message. PowerPanel software is compatible with Windows XP, Windows Vista, Windows 7, Windows 8, Windows Server 2008, Windows Server 2012 and all versions of Windows 2k+.

PowerPanel Business Edition for Virtual Environments



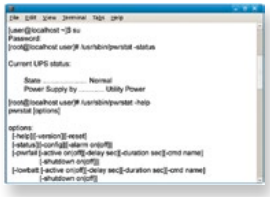
This version of the PowerPanel software is a complete UPS system management tool that works with virtual environments. Protect an ESX/ESXi host that is connected to a UPS though a serial or USB port by installing PowerPanel Business Edition software, then use it to control the host and connected virtual machines. The software logs UPS statuses and generates actions in response to administrator defined events. If an event occurs the software then sends notification to other connected systems to manage unattended shutdowns. PowerPanel management software has achieved VMware Ready™ status and is compatible with many popular versions of virtual machine operating systems including VMware vSphere™.

CyberPower is a member of VMware Technology Alliance Partner Program (TAP) providing integration between PowerPanel, VMware ESX/ESXi and all Smart App UPS models.

PowerPanel Personal Edition

PowerPanel Personal Edition software is available free for download with all UPS systems with a USB or serial port. The software features a user-friendly dashboard interface for controlling and monitoring a CyberPower UPS systems. Its advanced functionality includes; runtime management, self testing, event logging and more. PowerPanel Personal Edition software is compatible with Windows 8, Windows 7, Windows Vista, Windows XP, Windows Server 2008 and all versions of Windows 2k+.

PowerPanel for Linux



PowerPanel for Linux is a simple command line Linux daemon to control a UPS system attached to a Linux based computer. Functions include automatic shutdown, monitoring, notifications and more. PowerPanel for Linux is compatible with all versions of Linux.

PowerPanel for Mac & Mac Energy Saver

PowerPanel for Mac is now available to provide Mac users with information and statistics about a connected UPS. During a power event, a CyberPower UPS system and Apple's Energy Saver power management software can be set up to safely and securely shut down a Mac without using PowerPanel software. PowerPanel for Mac is compatible with Mac OS X 10.4.1+.

Replacement Batteries

Features

- OEM Certified
- Leak Proof
- Maintenance-Free
- User-Installable
- Preassembled
- 18-Month Warranty

Battery Life

The typical lifespan of internal UPS batteries is three to five years. Several factors, such as, the number of charging cycles, ambient temperature and other environmental conditions will dictate the actual life span of a battery.

Maintenance

Regularly scheduled battery maintenance and monitoring will help determine when batteries are nearing end-of-life. Specifically, end-of-life is when the battery can no longer supply 80% of their original capacity. Despite their maintenance-free description (meaning they do not require replacement fluid), sealed batteries need regular preventative inspection to ensure connectors are clean and corrosion free. At least once a year, inspection of a UPS system and initiation of a self-test is recommended to ensure optimal UPS and battery operation.

Replacement

A simple, cost-effective way to restore life to a CyberPower UPS system is to replace its internal batteries with a CyberPower replacement battery cartridge. These sealed lead-acid batteries are certified to meet or exceed original manufacturer specifications. The battery replacement cartridges are preassembled for easy installation and are shipped in reusable packaging for subsequent delivery of expired batteries to a suitable recycling center. All CyberPower replacement batteries include an 18-month warranty.

UPS Replacement Battery Specifications

Model	Style	UPS Model	Type	Nominal Voltage	Nominal Amperage	Warranty
RB1270	BB/BP7.2-12	CP600LCD	Sealed lead-acid	12V	7AH	18 mo.
RB1280	BB/BP8-12	CP685AVR, CP685AVRG, CP685AVRLCD	Sealed lead-acid	12V	8AH	18 mo.
RB1280A	BB/HR1234W	CP825LCD, CP800AVR, CP825AVRLCD, CP850AVRLCD	Sealed lead-acid	12V	8AH	18 mo.
RB1290	BB/HR9-12	CP1000AVRLCD	Sealed lead-acid	12V	9AH	18 mo.
RB1270X2	BB/SH1228W	CP900AVR	Sealed lead-acid	12V	7AH	18 mo.
RB1280X2A	BB/HR1234W	CP1500AVRT, CP1500AVRLCD	Sealed lead-acid	12V	8AH	18 mo.
RB0670X2	BB/BP7-6	OR500LCDRM1U	Sealed lead-acid	6V	7AH	18 mo.
RB0690X2	BB/HR9-6	OR700LCDRM1U	Sealed lead-acid	6V	9AH	18 mo.
RB0670X4	BB/BP7-6	OR1000LCDRM1U	Sealed lead-acid	6V	7AH	18 mo.
RB0690X4	BB/HR9-6	OR1500LCDRM1U	Sealed lead-acid	6V	9AH	18 mo.
RB0690X4A	BB/HR9-6	PR750LCDRM1U, PR1000LCDRM1U	Sealed lead-acid	6V	9AH	18 mo.
RB1270X4	BB/BP7.2-12	OR1500LCDRM2U	Sealed lead-acid	12V	7AH	18 mo.
RB1270X4A	BB/BP7.2-12	PR1000LCDRT2U, PR1500LCDRT2U, PR1000LCDRTXL2U	Sealed lead-acid	12V	7AH	18 mo.
RB1270X4B	BB/SH1228WFR	OR1500LCDRTXL2U	Sealed lead-acid	12V	7AH	18 mo.
RB1290X4	BB/HR9-12	OR2200LCDRM2U	Sealed lead-acid	12V	9AH	18 mo.
RB1290X4A	BB/HR9-12	PR2200LCDRT2U	Sealed lead-acid	12V	9AH	18 mo.
RB1290X4B	BB/HR9-12FR	OR2200LCDRTXL2U	Sealed lead-acid	12V	9AH	18 mo.
RB1290X4D	BB/HR9-12FR	PR3000LCDRT2U, PR1000LCDRTXL2Ua, PR1500LCDRTXL2U, PR2200LCDRTXL2U, PR3000LCDRTXL2U	Sealed lead-acid	12V	9AH	18 mo.

Essential Power Solutions

Power Distribution Units

PDUs are engineered to distribute UPS, generator or utility AC power to multiple devices, servers and network/telecom equipment in the most demanding environments. With more than 140 models offered in Basic, Metered, Monitored and Switched configurations, CyberPower offers a solution to meet virtually every need.

Rackbar™ Surge Protectors

Industrial rackmount surge protectors from CyberPower are designed for the most demanding applications and will safeguard systems and networking equipment against destructive power interruptions that can cause equipment damage, loss of valuable data and time.

Surge Protectors

Professional grade surge protectors from CyberPower are designed for office environments. Features include surge protected outlets and data line protection (DSL/Phone/Fax), as well as child-safe outlets (on select models). All units are covered by a Lifetime Product Warranty and Connected Equipment Guarantee.

Telecom Power Supplies–FTTx

CyberShield DC Power Supplies and reliable battery backup systems are specifically designed for optical network terminal (ONT) broadband applications, cable telephony, wireless local loop (WLL), fiber to the home (FTTH), VoDSL applications and Integrated Access Devices (IAD) for customer premises equipment (CPE). Commitment to meticulous engineering has brought the CyberPower CyberShield DC product line to the forefront of fiber applications in the telecommunications industry.

Power Accessories

CyberPower offers an extensive line of computer and consumer electronics such as hubs, USB chargers, mobile batteries and power inverters. Also CyberPower manufactures a variety of cables to connect peripherals or networking devices. All of these products are designed to meet the growing power needs of IT professionals and tech-savvy consumers everywhere.

Industry Terms

Alternating Current (AC)
The direction of an electric charge that is flowing in a circuit is constantly being reversed between positive and negative.

Amp (Ampere)
The standard unit of measure for electrical current, defined as the amount of electrical flow equal to one coulomb per second.

Apparent Power
The product of the applied voltage and current in an AC circuit. Apparent power is measured in VA (Volt-Ampere)

Blackout
A power failure in which line voltage drops to zero.

Brownout
A drop in voltage for an extended period of time.

Buck/Boost
Full automatic voltage regulation in a UPS stabilizes low voltage (boost) and high voltage (buck) to maintain nominal 120V power, without resorting to battery power when minor power fluctuations occur.

Coaxial Cable
Cables that are made of an inner conductor surrounded by an insulator and a shield that are generally used for TV antennas, satellite dishes, cable modems and certain computer networking applications.

Current
The flow of electric charge, measured in amps.

DHCP
Dynamic Host Configuration Protocol (DHCP), automatically assigns an IP address to a device on a network.

Direct Current (DC)
The unidirectional flow of an electric charge.

Double-Conversion UPS
This high-end UPS system converts incoming utility AC power into DC power and then back into AC power, charging connected devices with the UPS battery. The isolated process ensures clean and stable output voltage and zero transfer time. This UPS system is ideal for equipment sensitive to power fluctuations such as corporate data centers, servers, and network and storage devices.

Efficiency (Energy Conversion Efficiency)
The ratio between the amount of apparent power and the amount of true power used by an electrical device. The closer the true power value is to the apparent power, the more efficient the device.

Electromagnetic Interference (EMI)
Commonly referred to as line noise, these interference signals can disrupt or degrade the performance of a circuit by inserting abnormalities into the system. Also referred to as radio frequency interference (RFI) when in high or radio frequency.

Frequency
The number of AC power cycles in a given time period, which is measured in Hertz.

Ground
An electrical system connection that serves as a conduit between the circuit and earth.

Half-Load
The midpoint in the maximum load capacity for a UPS.

Hard-wired
High amperage devices that require installation by a qualified electrician to be directly wired-in, instead of simply being plugged in to an outlet.

Harmonics
A sinusoidal component of an AV voltage that is multiple of the fundamental waveform frequency. Certain harmonic patters may cause equipment problems.

Harmonic Distortion
Regularly appearing distortion of the sine wave whose frequency is a multiple of the fundamental frequency. Converts the normal sine wave into a complex waveform.

Hertz (Hz)
The unit for frequency, defined as the number of alternating cycles per second.

Hot-Swappable Battery
A term used to describe the functions of replacing a UPS battery without shutting down the unit.

Input Voltage Range
The voltage range a UPS operates within “normal” mode and does not require battery power.

Joule
A measure of electrical energy — one joule is defined as the energy needed to pass one ampere of current through one ohm of resistance.

Kilovolt Ampere (kVA)
One thousand volt-amperes. Common measurement of equipment capacity. An approximation of available power in an AC system that does not take power factor into account.

Line-Interactive UPS
Functions the same as a standby UPS, with the additional feature of some voltage regulation built in. It switches to battery power when voltage drops too low, just as a standby UPS does, however if the voltage only drops slightly, a line-interactive UPS corrects this without using battery power. The functionality of these mid- to high-grade units falls between standby and online UPS units.

Load
The amount of power consumed by an electrical device on a circuit. Load capacity is a critical factor in selecting a UPS or surge protector.

MOV
Metal Oxide Varistor is an electronic component that is used to protect circuits against excessive, short-lived, voltages or currents.

Nominal Voltage
The standard voltage for a circuit or system. Common nominal voltages in the U.S. includes 120VAC, 208VAC and 240VAC.

Overvoltage
This occurs when incoming voltage is higher than normal but not high enough to be classified as a surge or a spike.

Power Factor (PF)
The ratio of real power (watts) to apparent power (VA), expressed as a number between 0 and 1. Watts divided by VA = Power Factor

Industry Terms

Power Factor Correction
Controls the incoming power to a power supply in order to bring the power factor as close to unity power as possible.

Power Surge
A sustained overvoltage that generally subsides after a few seconds.

Radio Frequency Interference (RFI)
See Electromagnetic Interference.

Real Power
The amount of power being drawn by a system, measured in watts. Real power is a function of VA (apparent power) and the power factor.

RJ11, RJ14, RJ45
The abbreviation of registered jack (RJ) – RJ11 is for standard phone lines, RJ14 is for multiple phone lines and RJ45 is for Ethernet.

Runtime
The maximum period of time battery power is output from a UPS to its connected devices during a power interruption. Runtime is dependent upon the total load of all connected equipment.

Sag
A sudden, brief power undervoltage.

Simulated Sine Wave
A 'stepped', or approximated sine wave AC power output. Simulated (or non-sinusoidal) waveforms may also be referred to as a squared sine wave, modified sine wave, trapezoidal sine wave or quasi sine wave.

Sine Wave
A smooth, repetitive oscillation of AC power.

Single Phase Power
Refers to the distribution of alternating current electric power using a system in which all the voltages of the supply vary in unison.

SMTP
Simple Mail Transfer Protocol is the standard for email transmission on the Internet.

SNMP
Simple Network Management Protocol is a commonly used protocol for devices to communicate over a network.

Spike
A spike is a sudden, brief over voltage.

Standby UPS
A UPS that passes utility power straight through to the output when conditions are stable, but switches to battery power when utility voltage drops below or rises above an acceptable level.

Total Harmonic Distortion (THD)
A calculated measure of the distortion in sine wave clarity caused by higher wave frequencies.

Thermal Dissipation
The process of dissipating heat from an electrical system via air or liquid cooling; also a term for the amount of heat a device can emit.

Transfer Time
The time it takes UPS to switch from AC power to battery power.

Transformer
A device that converts AC line voltage to a higher or lower value.

U
The standard unit of measure for rack-mounted equipment. A device measuring 1U is 1.75 inches high, 2U is 3.50 inches, etc.

Undervoltage
Occurs when voltage is lower than normal for an extended period of time without recovering, but not so low that the electronic device will not function. Two types of undervoltages are brownouts and sags.

USB (HID Compliant)
Universal Serial Bus devices are used to connect various components to a computer. An HID (Human Interface Device) compliant USB follows a specific protocol for communication that allows it to be used with virtually any system.

Virtualization
The creation of a virtual (rather than actual) version of something, such as an operating system, a server, a storage device or network resource. Operating systems virtualization is the use of software to allow a piece of hardware to run multiple operating system images at the same time.

Volt/Voltage (V)
The difference in electric potential between two points when one amp of current dissipates one watt of power.

Volt Amps (VA)
The unit used to express apparent power.

Voltage Regulator
A device or component that normalizes voltage to a certain standard when it is fluctuating.

Watts (W)
A unit of measure for true power consumption.

Waveform
A graphical representation of a signal in the form of a wave that displays how alternating current (AC) varies over time. Common waveform representations include sine wave, square wave and trapezoidal wave. An electronic instrument called an oscilloscope is used to measure a waveform on a display screen.

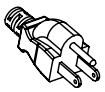
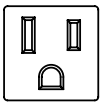
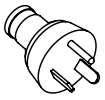
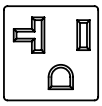
Wiring-Fault
Refers to an abnormal flow of current that is due to an improperly grounded electrical outlet.

Plug & Outlet Guide

NEMA – National Electrical Manufactures Association

NEMA connectors are AC power plugs and receptacles used for utility power in North America and other countries that use the standards set by the U.S. National Electrical Manufacturers Association. Some types are found in nearly all buildings in the United States. Similar and interchangeable connectors are used in Canada, Mexico, and other countries using the same type of receptacle, although there are some exceptions. NEMA wiring devices are made in current ratings from 15 to 60 amperes, and electrical potential (voltage) ratings from 125 to 600 volts.

NEMA Single Phase: 5-15P, 5-20P, L5-20P, L5-30P, L6-20P, L6-30P

Plug	Receptacle	Plug	Receptacle
			
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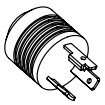
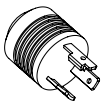
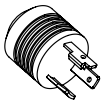
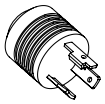
			
L5-20P	L5-20R	L5-30P	L5-30R
			
L6-20P	L6-20R	L6-30P	L6-30R

Note: *Locking plugs and receptacles are not interchangeable. For example an L6-20P plug will not lock into an L6-30R receptacle.*

NEMA Plugs & Receptacle Naming Guide

L 5 - 20 P

BLADE TYPE
L = Twist Lock
If no letter = Straight Blade

CONNECTION TYPE
P = Plug
R = Receptacle

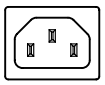
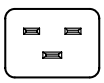
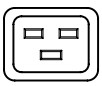
VOLTAGE
5 = 120V
6 = 208V, 230V, or 240V
14 = 120v & 208V (4 wire)

AMPERAGE
15 = 15 amps
20 = 20 amps
30 = 30 amps

IEC – International Electrotechnical Commission

The International Electrotechnical Commission (IEC) is a non-profit, non-governmental international standards organization that prepares and publishes international standards for all electrical, electronic and related technologies – collectively known as “electrotechnology”. IEC standards cover a vast range of technologies from power generation, transmission and distribution to home appliances and office equipment, semiconductors, fibre optics, batteries, solar energy, nanotechnology and marine energy as well as many others.

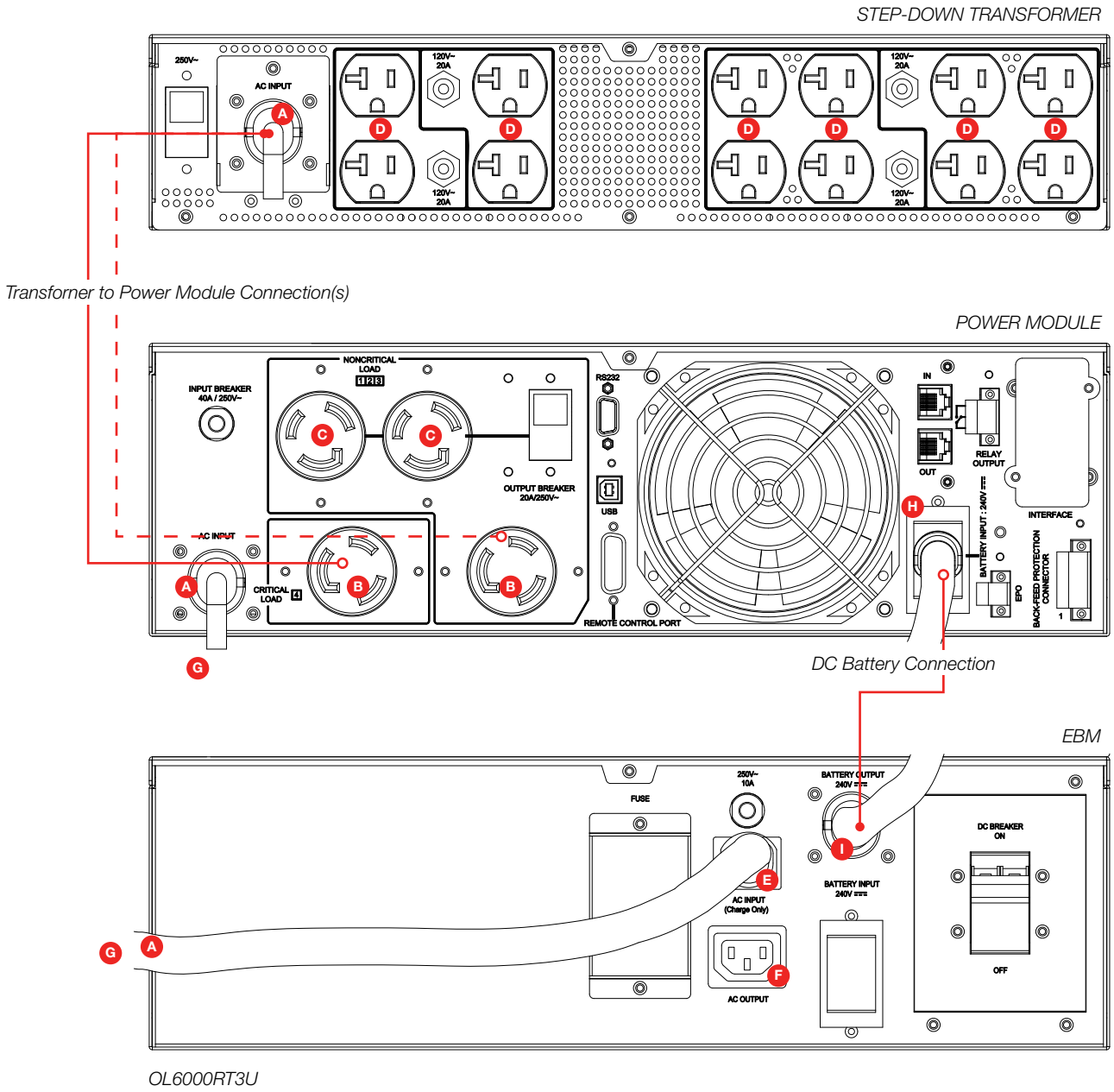
IEC Single Phase: IEC 320-C14, C20

Plug	Receptacle	Plug	Receptacle
			
C14	C13	C20	C19

Connection Guide

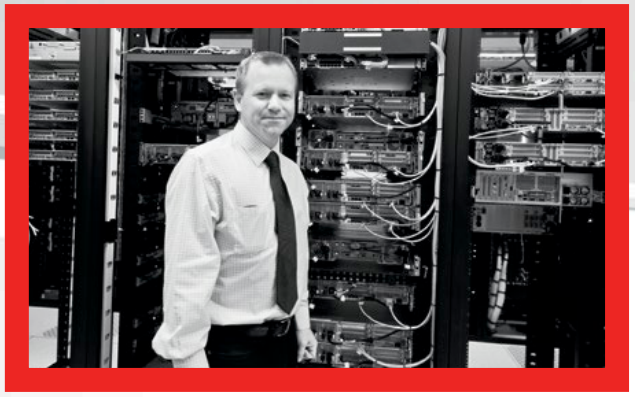
Online UPS Connection Diagram

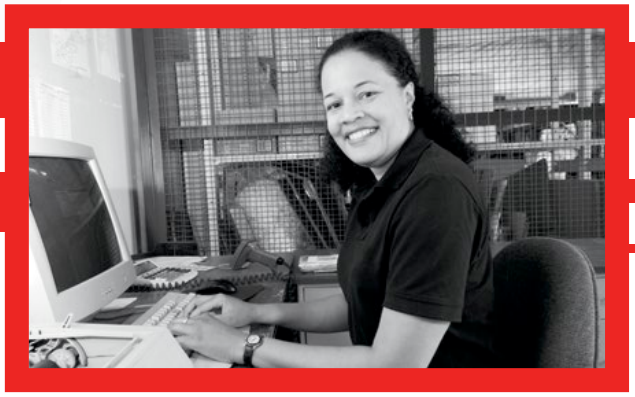
The diagram below is designed to help easily identify key parts and features of a CyberPower Online UPS system.



Scan to view our Online UPS Outlet Guide

- A NEMA L6-30P
- B NEMA L6-30R
- C NEMA L6-20R
- D NEMA 5-20R
- E IEC-320-C14
- F IEC-320-C13
- G 200-240VAC Utility Power
- H VDC Battery Connector
- I VDC Battery Plug





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