CyberPower

CP1200EIPFCLCD / CP1350EPFCLCD / CP1600EPFCLCD
User's Manual

K01-0001037-01

PRODUCT REGISTRATION

Thank you for purchasing a CyberPower product. Please take a few minutes to register your product at www.cyberpower.com/product-registration. Registration certifies your product's warranty, confirms your ownership in the event of a product loss or theft and entitles you to free technical support. Register your product now to receive the benefits of CyberPower ownership.

IMPORTANT SAFETY INSTRUCTIONS

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate your UPS.

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

CAUTION! To reduce the risk of electric shock, do not remove the cover except to service the battery. Turn off and unplug the unit before servicing the batteries. There are no user serviceable parts inside except for the battery.

CAUTION! Hazardous live parts inside can be energized by the battery even when the AC input power is disconnected.

CAUTION! The UPS must be connected to an AC power outlet with fuse or circuit breaker protection. Do not plug into an outlet that is not grounded. If you need to de-energize this equipment, turn off and unplug the unit.

CAUTION! To avoid electric shock, turn off the unit and unplug it from the AC power source before servicing the battery or installing a computer component.

CAUTION! DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! DO NOT use in any circumstance that would affect the operation and safety of life support equipment, medical applications, or patient care.

CAUTION! DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire or electric shock, do not use with or near an aquarium. Condensation from the aquarium can cause the unit to short out.

CAUTION! DO NOT USE THE UPS ON ANY TRANSPORTATION! To reduce the risk of fire or electric shock, do not use the unit on any transportation such as airplanes or ships. The effect of shock or vibration caused during transit and the damp environment can cause the unit to short out.

CAUTION! The output cable should not exceed 10m in length.

INSTALLING YOUR UPS SYSTEM

UNPACKING

Inspect the UPS upon receipt. The box should contain the following: (a) UPS unit (b) User's manual (c) USB A+B type cable (d) Function Setup Guide (e) Power Cord (Type and quantity may differ from models.)

*PowerPanel Personal/Business software is available on our website. Please visit www.cyberpower.com and go to the Software Section for free download. (Differences between personal and business, please refer to the downloaded website.)

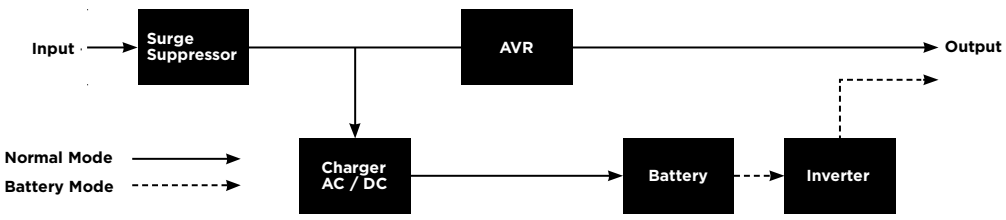
SUPPORTS ACTIVE PFC POWER SUPPLIES

This CyberPower UPS system delivers sine wave output, which is ideal for seamless operation of computers using high efficiency switching power supplies with Active Power Factor Correction (Active PFC), home entertainment systems, and other sensitive electronics.

OVERVIEW

The CP1200EIPFCLCD / CP1350EPFCLCD / CP1600EPFCLCD provides complete power protection from utility power that is not always consistent. The CP1200EIPFCLCD / CP1350EPFCLCD / CP1600EPFCLCD features **405** Joules of surge protection**.** The unit provides long lasting battery backup during power outages with maintenance free batteries. The CP1200EIPFCLCD / CP1350EPFCLCD / CP1600EPFCLCD ensures consistent power to your computer system and includes software that will automatically save your open files and shutdown your computer system during a utility power loss.

SYSTEM BLOCK DIAGRAM



AUTOMATIC VOLTAGE REGULATOR

The CP1200EIPFCLCD / CP1350EPFCLCD / CP1600EPFCLCD uses Automatic Voltage Regulation (AVR) to stabilize inconsistent utility power voltage to levels that are safe for connected equipment. AVR safeguards hardware and important data files by automatically increasing low utility power to a consistent and safe output voltage while preserving battery power for outages.

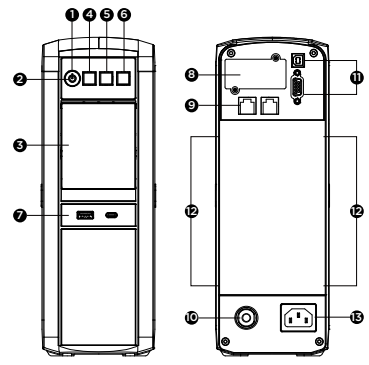
DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Ensure that the equipment plugged into the outlet does not exceed the UPS unit's rated capacity. If the rated capacities of the unit are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.
2. There are many factors that can affect the amount of power that your computer system will require. It is suggested that the load placed on the battery outlets not exceed 80% of the unit's capacity.

HARDWARE INSTALLATION GUIDE

1. Your new UPS may be used immediately upon receipt. However, after receiving a new UPS, to ensure the battery's maximum charge capacity, it is recommended that you charge the battery for at least 8 hours. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically charge whether the UPS is turned on or off. **Note:** This UPS is designed with a safety feature to keep the system from being turned on during shipment. The first time you turn the UPS on, you will need to have it connected to AC power or it will not power up.
2. With the UPS unit turned off and unplugged, connect your computer, monitor, and any other peripherals requiring battery backup into the battery power supplied outlets. DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the unit.
3. Plug the UPS into a 2 pole, 3 wire grounded receptacle (wall outlet). Make sure the wall branch outlet is protected by a fuse or circuit breaker and does not service equipment with large electrical demands (e.g. air conditioner, copier, etc...). The warranty prohibits the use of extension cords, outlet strips, and surge strips.
4. Press the power switch to turn the unit on. The Power On indicator light will illuminate and the unit will "beep". If an overload is detected, an audible alarm will sound and the unit will emit one long beep. To correct this, turn the UPS off and unplug at least one piece of equipment from the battery power supplied outlets. Make sure the circuit breaker is depressed and then turn the UPS on.
5. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.
6. To store the UPS for an extended period, cover it and store with the battery fully charged. While in storage, recharge the battery every three months to ensure battery life.
7. Ensure the wall outlet and UPS are located near the equipment being attached for proper accessibility.

BASIC OPERATION



1. **Power Switch**: Used as the master on/off switch for equipment connected to the battery power supplied outlets.
2. **Power On Indicator**: This LED is illuminated when the utility power is normal and the UPS outlets are providing power, free of surges and spikes.
3. **LCD Module Display**: High resolution and intelligent LCD display shows all the UPS information using icons and messages. For more information please review the "Definitions for Illuminated LCD Indicators" section below.
4. **Down/Display Button**: The button can be used to select the LCD display contents including Input Voltage, Output Voltage, and Estimated Run Time. Short press the button to scroll down the function menu. Pressing the button for 2 seconds will keep the LCD display always on or turn the LCD display off while in AC/Utility power mode. For more information about the Down/Display Button, please refer to the *Function Setup Guide*.
5. **Up/Mute Button**: Short press the button to scroll up the function menu. Holding the button for more than 2 seconds will silence the alarm. For more information about the Up/Mute Button, please refer to the *Function Setup Guide*.
6. **Enter/Setup Button**: Press the button for 2 seconds to enter the setup menu and then select the functions for configuration. For more information about the Enter/Setup Button, please refer to the *Function Setup Guide*.
7. **USB Charging Ports (except for CP1200EIPFCLCD)**: The USB charging ports (Type A and Type C) provide power output with battery backup.

   CP1350EPFCLCD:
   - USB-A Output: 5Vdc, 2.4A Max
   - USB-C Output: 5Vdc, 2.4A Max
   - Total Output: 5V dc, 4A Max

   CP1600EPFCLCD:
   - USB-A Output: 5Vdc, 2.4A Max
   - USB-C Output: 5Vdc, 2.5A Max
     9Vdc, 2A Max
     15Vdc, 2A Max
   - Total Output: 30W Max
8. **SNMP/HTTP Network Slot**: Remove the cover panel to install an optional RMCARD provides remote monitoring and management of your UPS over a network.
9. **Communication Protection Ports (RJ45)**: Bi-directional communication ports provide surge protection to a 10/100/1000 Ethernet connection.
10. **Circuit Breaker**: Located on the back of the UPS, the circuit breaker serves to provide overload and fault protection.
11. **USB Port to PC**
    The USB communication port allows communication between the USB port on the computer and the UPS unit.
    DB9 Port
    This port is used for connecting between the UPS and equipment designed to operate with a dry contact closure.
12. **Battery and Surge Protected Outlets**: The unit has 6 battery powered/surge suppression outlets for connected equipment to ensure temporary uninterrupted operation of your equipment during a power failure. (DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the unit.)

Outlet Type					
Quantity	6	2	4	2	4

13. **AC Input:** Connect the AC Power cord to a properly wired and grounded outlet.

BATTERY REPLACEMENT

Read and follow the important safety instructions before servicing the batteries. When replacing batteries, replace with the same number of the following battery: CyberPower / RBP0146 for the CP1200EIPFCLCD and CP1350EPFCLCD, CyberPower / RBP0142 for the CP1600EPFCLCD.

CAUTION! RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO LOCAL REGULATIONS.

CAUTION! Risk of Energy Hazard, 24 V, maximum 9 Ampere-hour battery. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy conducted through these materials could cause severe burns.

CAUTION! Do not dispose of batteries in a fire. The batteries may explode.

CAUTION! Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.

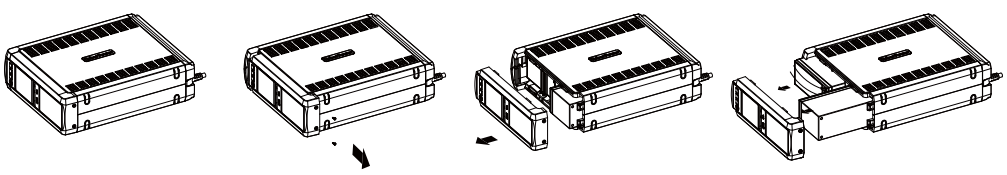
CAUTION! Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.

CAUTION! A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:

(1) Remove watches rings, or other metal objects.
(2) Use tools with insulated handles.
(3) Wear rubber gloves and boots.
(4) Do not lay tools or metal parts on top of batteries.
(5) Determine if battery is inadvertently grounded. If inadvertently grounded, remove source from ground. CONTACT WITH ANY PART OF A GROUNDED BATTERY CAN RESULT IN ELECTRICAL SHOCK. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).

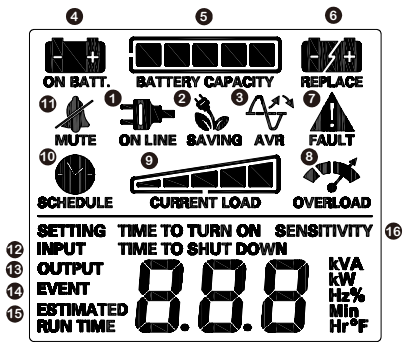
BATTERY REPLACEMENT PROCEDURE

1. Turn the UPS on its side.
2. Remove the front panel retaining screws located on the bottom of the UPS.
3. Slide the front panel completely off of the unit.
4. Remove the fixed stand from the upper battery.
5. Remove the batteries from the compartment.
6. Disconnect the battery wires from the batteries.
7. Replace with a new battery into the upper compartment. Connect the yellow wire to the battery's black terminal and the red wire to the battery's red terminal. Next, insert a new battery into the lower compartment. Connect the yellow wire to the red battery terminal and the black wire to the battery's black terminal.
8. Put the batteries back into the compartment and reattached the fixed stand. Slide back the front panel and tighten the retaining screws.
9. Recharge the UPS for 8-16 hours to fully charge the battery.



REMINDER: Batteries are considered HAZARDOUS WASTE and must be disposed of properly. Most retailers that sell lead-acid batteries collect used batteries for recycling, as required by local regulations.

DEFINITIONS FOR ILLUMINATED LCD INDICATORS



1. **ONLINE**: The UPS is supplying utility power to connected equipment.
2. **ENERGY-SAVING**: The UPS in energy-saving bypass mode. See "CyberPower GreenPower UPS™ Technology" section for more information.
3. **AVR (Automatic Voltage Regulation)**: This icon appears whenever your UPS is automatically correcting low AC line voltage without using battery power. This is a normal, automatic operation of your UPS, and no action is required on your part.
4. **ON BATT.**: During a severe brownout or blackout, this icon appears and an alarm sounds (two short beeps followed by a pause) to indicate the UPS is operating from its internal batteries. During a prolonged brownout or blackout, the alarm will beep rapidly every 1/2 second to indicate the UPS's batteries are nearly out of power. You should save files and turn off your equipment immediately or allow the software to shut the system down.
5. **BATTERY CAPACITY**: This meter displays the approximate charge level (in 20% increments) of the UPS's internal battery. During a blackout or severe brownout, the UPS switches to battery power, and the charge level decreases.
6. **REPLACE BATTERY**: This icon appears when the batteries are not connected well or the batteries were worn out.
7. **FAULT**: This icon appears if there is a problem with the UPS. Press the POWER button to turn the UPS off.
   - **E02: Charger Fault – No Charge** (Contact CyberPower Systems for support.)
   - **E11: Battery Overvoltage** (Contact CyberPower Systems for support.)
   - **E21: Output Short** (Check the status of equipment connected to the UPS and then turn on the UPS again.)
   - **E22: Overload** (Unplug at least one piece of equipment from battery outlets and turn the UPS on again.)
8. **OVERLOAD**: This icon appears and an alarm sounds to indicate the battery-supplied outlets are overloaded. To clear the overload, unplug one piece of equipment from the battery-supplied outlets at a time until the icon turns off and the alarm stops.
9. **CURRENT LOAD**: This meter displays the approximate output load level (in 20% increments) of the UPS battery outlets.
10. **SCHEDULE**: Users can setup the schedule to turn on and shut down the computer and UPS through PowerPanel Business software. The LCD display will show how much time is left before the UPS will turn back on or shut down.
11. **MUTE**: This icon appears whenever the UPS is in silent mode. However, when there is a problem with the UPS, the alarm will still beep even in silent mode.
12. **INPUT METER**: This meter measures the AC voltage that the UPS system is receiving from the utility wall outlet. The INPUT voltage meter can be used as a diagnostic tool to identify poor-quality input power.
13. **OUTPUT METER**: This meter measure, in real time, the AC voltage that the UPS system is providing to the computer, such as normal AC line mode, AVR mode, and battery backup mode. (Note: The OUTPUT meter shows the status of the battery backup outlets in terms of load, frequency, and voltage.)
14. **EVENT**: This meter records the number of power outages.
15. **ESTIMATED RUNTIME**: This displays the runtime estimate of the UPS with current battery capacity and load.
16. **SENSITIVITY SETUP**: This meter is also used to setup the UPS sensitivity when you are in the programming mode. If the connected equipment can tolerate more power events (example: unstable power often associated with stormy weather), select Low Sensitivity and the UPS will go to Battery Mode less often. If the connected equipment is more sensitive to power events, select High Sensitivity and the UPS will go to Battery Mode more often.

For more information about functions setup, please refer to the *Function Setup Guide*.

TECHNICAL SPECIFICATIONS

Model	CP1200EIPFCLCD	CP1350EPFCLCD	CP1600EPFCLCD
Capacity	1200VA/ 720W	1350VA/ 810W	1600VA/ 1000W
Nominal Input Voltage	220-240Vac		
Frequency Range	50/60Hz ± 3 Hz (Auto Sensing)		
AVR Function	Yes		
On Battery Output Voltage	230Vac ± 5% *Under a test load of less than 60%. When the load exceeds 60%, the output voltage range may exceed 5%.		
On Battery Output Frequency	50/60Hz ± 1%		
Lightning / Surge Protection	405J		
Network Protection	RJ45		
Operating Temperature	0°C – 40°C		
Operating Relative Humidity	0% – 95% Non-condensing		
Operating Elevation	0 – 3,000 meters		
Storage Temperature	-15°C – 45°C		
Storage Relative Humidity	0% – 95% Non-condensing		
Storage Elevation	0 – 15,000 meters		
Maximum Dimensions(WxHxD)	100 x 280 x 355 mm		
Weight	10 kg		11 kg
Battery	Sealed Maintenance Free Lead Acid Battery		
Typical Recharge Time	8 hours * Recover to 90% after full load discharge.		
User Replaceable	Yes		
LED Indicators	Power On		
Audible Alarms	On Battery, Low Battery, Overload, Fault		
Software (Free Download)	PowerPanel Personal/Business		
SNMP / HTTP Remote Monitoring	Yes – with optional RMCARD205		
Certifications	CE		

TROUBLESHOOTING

Problem	Possible Cause	Solution
Circuit breaker button is projecting from the back of the unit.	Circuit breaker has tripped due to an overload.	Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker by depressing the button, and then turn the UPS on.
The UPS does not perform expected runtime.	Battery not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is worn out.	Contact CyberPower about replacement batteries.
The UPS will not turn on.	The on/off switch is designed to prevent damage from rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The battery is worn out.	Contact CyberPower about replacement batteries.
	Mechanical problem.	Contact CyberPower.
PowerPanel Personal/Business software is inactive (all icons are gray).	The USB is not connected.	Connect the USB cable to the UPS unit and an open USB port on the computer. You must use the cable that came with the unit.
	The USB is connected to the wrong port.	Check the computer for an additional USB. Move the cable to this port.
	The unit is not providing battery power.	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. This should reset the unit.
The USB charging ports are not providing power to the connected devices.	The USB power port has Over Current Protection design. When the total current of connected devices is over specification, the USB charging ports will stop providing power to the connected devices.	Turn the UPS off and unplug at least one piece of device connected to the USB charging port and then turn the UPS on.

CYBERPOWER GREENPOWER UPS™ TECHNOLOGY

Advanced Energy-Saving Design
The GreenPower UPS™ has a high-efficiency charger, which makes it the most energy-efficient UPS in its class. The advanced high-frequency charging system significantly improves charging efficiency and conserves energy. As a result of this advanced design, the GreenPower UPS™ uses less energy compared to competitive models. The GreenPower UPS™ is manufactured in accordance with the Restriction on Hazardous Substances (RoHS) directive making it one of the most environmentally-friendly UPS on the market today.

ENERGY-SAVING TECHNOLOGY

DISPOSAL

The Waste Electrical and Electronic Equipment (WEEE) Directive aims to contribute to sustainable production and consumption by contributing to the efficient use of resources and the retrieval of secondary raw materials through re-use, recycling and other forms of recovery. The symbol on this product and/or its packaging indicates that the product must be disposed of separately from ordinary household wastes at its end of life. Contact your related WEEE management authority, local office, or your household waste disposal service about information on the recycling drop off site.

BATTERY DISPOSAL

Pb Pb

This product contains non-spillable lead acid batteries. The used batteries are considered hazardous waste and must be disposed through recycling. Do not dispose of used batteries with your ordinary household wastes. Dispose of the batteries according to the local regulations.
Note: Most retailers that sell lead-acid batteries collect used batteries for recycling, as required by the local regulations.

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