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# Back-UPS<sup>®</sup> CS 500 User's Manual

220 Volt Wall Outlet

## Thank you for purchasing APC's Back-UPS CS 500. Please complete and mail the enclosed Warranty Registration Card, or register your purchase

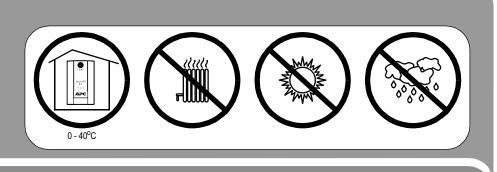
#### Safety and Placement

Do not install this device during a thunderstorm.

Do not install this device in a hot or excessively moist location.

Do not use with aquarium equipment.

This device is designed for indoor use only.



断路开关 按下复位 Circuit Breaker

## **Connect Equipment**



These outlets are powered whenever the unit is switched ON. During a power outage or other utility problems (brownouts, over-voltages), these outlets will be powered for a limited time by the internal battery. Plug your computer and monitor into these outlets.

**Connect AC Line Cord** 

Connect the AC line cord to a 220 Volt outlet.

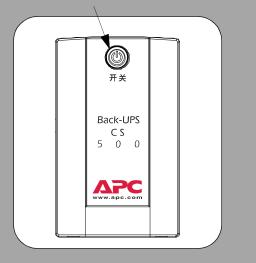


#### **Power On**

The Back-UPS should be allowed to charge for 16 hours to ensure sufficient runtime. The unit is being charged whenever it is connected to utility power, and the unit is turned ON.

Power ON the unit by pressing the ON/OFF button. Turn on your equipment.

**Note:** The on/off switch is illuminated when in the ON position. The switch may flash to indicate changing power conditions (see *Status Indications*).



### **Status Indications**

The Back-UPS indicates operating status using a combination of visual and audible indicators, as follows:

Power ON Indicator (green)	Buzzer	Condition
Off	Off	The Back-UPS has been turned off.
On	Off	<b>On Line</b> - Back-UPS is supplying conditioned utility power to the connected equipment.
Flashing (off during beeping)	4 beeps every 30 seconds	<b>On Battery</b> - Back-UPS is supplying battery power to the connected equipment.
Flashing	Constant Beeping	Low Battery Warning - The Back-UPS has 2 minutes of battery power remaining.
Off	Beeps once every 4 seconds	<b>Sleep Mode</b> - Battery power has been completely exhausted. The Back-UPS is waiting for utility power to return to normal.
On	Contant Tone	<b>Overload Warning</b> - The connected equipment requires more power than can be provided by the Back-UPS.
Off	Constant Tone	<b>Overload Shutdown</b> - The Back-UPS has shut down because the connected devices require more power than can be provided by the Back-UPS. Disconnect one of the devices and restart the unit.
Flashing	Constant Tone	The Back-UPS has experienced an internal problem. Contact APC Technical Support.

Troubleshooting Consult APC Online Technical Support or call APC Technical Support for assistance with problems that cannot be resolved using the table below:

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Problem	Probable Cause	Solution
Unit will not turn on; ON/OFF button will not illuminate green.	Utility power not available at the wall outlet, and battery power has been exhausted.	Ensure that the fuse or circuit breaker for the wall outlet is okay, and that the wall switch controlling the wall outlet (if any) is in the ON position. Ensure the battery has been fully charged.
Connected equipment loses power.	Circuit Breaker has tripped; the unit is overloaded.	Reduce the amount of equipment plugged into the "Battery Backup + Surge Protection" outlets. Reset the Circuit Breaker by pushing it back in.
		Ensure the equipment plugged into the outlets of the unit are not overloading the capacity of the unit. Try disconnecting some of the equipment and see if the problem continues.
	The unit has exhausted its available battery power.	The unit can only operate on battery power for a limited amount of time. The unit will eventually turn off when the available battery power has been used. Allow the unit to recharge for 16 hours before continuing use of the unit.
	The equipment connected to the Back-UPS does not accept the step-approximated sine waveform from the unit.	The output waveform is designed for computers and computer-related equipment. It is not designed for use with motor-type equipment.
	The unit may require service.	Contact APC Technical Support for further troubleshooting.
The Power indicator is lit and the unit is beeping four times every 30 seconds.	The Back-UPS is supplying battery power to the connected equipment	The unit is operating normally and supplying battery power. Once On Battery, you should save your current work, power down your equipment, and turn the unit OFF. Once normal power is restored, you may turn the unit back ON and power your equipment.
The power indicator is flashing and the unit beeps once per second.	Battery capacity is low (about 2 minutes of use remaining).	The unit is about to shut off due to a low battery charge condition! When the unit beeps once every second, the battery has about 2 minutes of power remaining. Immediately power down your computer and turn the unit OFF. When normal power returns, you may turn the unit back ON; the unit will recharge the battery.
Inadequate runtime.	The battery is not fully charged.	Allow the unit to charge by leaving it plugged in and switched on for 16 hours.
	Battery is near the end of useful life.	As a battery ages, the amount of runtime available will decrease. Batteries also age prematurely if the unit is placed near excessive heat. If the battery will not charge, the Back-UPS is no longer operable.

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### **Specifications**

Item	Туре	Specification
Input	Voltage	220 Vrms Nominal
	Frequency	45-55 Hz
	Brownout Transfer	165 Vrms, typical
	Over-voltage Transfer	266 Vrms, typical
Output	UPS Capacity (total)	500 VA / 300 W
	Voltage - On Battery	220 Vrms <u>+</u> 8% (step-approximated sine wave)
	Frequency - On Battery	120 Hz <u>+</u> 3 Hz
	Transfer Time	8 ms typical, 10 ms maximum
Protection and Filte	AC Surge Protection	Full time, 160 joules
	Overcurrent Protection	Resettable circuit breaker
Battery (lead-acid)	Type (maintenance free)	12V, 4.5 amp-hour
	Average Life	2-5 years
	Typical Recharge Time	16 hours
Physical	Net Weight	7.2 lb. (3.3 kg.)
	Size	13.3 (H) x 8.2 (W) x 21.3 (D) cm
	Operating Temperature	0°C to 40°C
	Storage Temperature	-15°C to 45°C
	Operating Relative Humidity	5 to 95% non-condensing
	Operating Elevation	0 to 10,000 ft (0 to 3,000 m)

#### Warranty

The standard warranty is 2 years from the date of purchase. APC will ship the replacement unit once the defective unit is received by the repair department or cross-ship upon the provision of a valid credit card number. The customer pays for shipping to APC, and APC pays ground freight transportation costs back to the customer.

#### **Contact Information**

APC China (Phone) Website Online Technical Support American Power Conversion

8610-85299888 http://www.apcc.com/ch http://support.apcc.com/ch 132 Fairgrounds Road West Kingston, RI USA 02892

#### Safety

This section contains important instructions that should be followed during installation and maintenance of the Back-UPS. It is intended for APC customers who setup, install, relocate, or maintain APC equipment.

This equipment is intended for installation in a temperature-controlled indoor area (see *Specifications* for exact temperature range), free of conductive contaminants.

#### WARNING! Battery Safety

• This unit contains no user-serviceable parts. This equipment contains potentially hazardous voltages. Do not attempt to disassemble the unit. Repairs are performed only by factory trained service personnel.



Batteries must be recycled. Deliver the entire Back-UPS to an appropriate recycling facility, or ship it to APC in the original packaging.

- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or mutilate batteries. They contain an electrolyte which is toxic and harmful to the skin and eyes.

#### Service

Please DO NOT RETURN the unit to the place of purchase under any circumstances.

- 1. Consult the Troubleshooting section to eliminate common problems.
- Ensure the Circuit Breaker is not tripped (see *Troubleshooting* section).
  If you still have problems or questions, please contact APC via the internet or at the phone numbers listed in the *Contact Information* section.
- 3. Before contacting APC, please be sure to record the date purchased, model and serial number (on bottom of unit).
- 4. Be prepared to troubleshoot the problem over the telephone with a Technical Support Representative. If this is not successful, the representative will issue a Return Material Authorization Number (RMA#) and a shipping address.
  - Pack the unit in its original packaging. If the original packaging is not available, ask APC Technical Support about obtaining a new set. Pack the unit properly to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under the warranty (insuring the package for full value is recommended).
- 8. Write the RMA# on the outside of the package.
- 9. Return the unit by insured carrier to the address given to you by APC.