

APC Smart-UPS Uninterruptible Power Supply

Model 5000UXI User's Manual



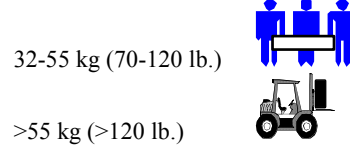
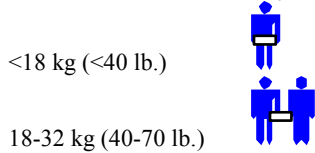
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This Safety Guide contains important instructions that should be followed during installation and maintenance of the APC equipment and batteries. It is intended for APC customers who setup, install, relocate, or maintain APC equipment.

Handling Safety

- Be careful. Do not lift heavy loads without assistance.





- Equipment with casters is built to move on a smooth surface without any obstacles.
- Do not use a ramp inclined at more than 10°.
- This equipment is intended for installation in a temperature-controlled indoor area (0 to 40°C (+32 to +104°F)), free of conductive contaminants.

Electrical Safety

- Do not work alone under hazardous conditions.
- High short circuit current through conductive materials could cause severe burns.
- A licensed electrician is required to install permanently wired equipment.
- Check that the power cord(s), plug(s), and sockets are in good condition.
- To reduce the risk of electric shock when grounding cannot be verified, disconnect the equipment from the AC power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Do not handle any kind of metallic connector before the power has been removed.
- Use one hand, whenever possible, to connect or disconnect signal cables to avoid a possible shock from touching two surfaces with different electrical grounds.
- Connect the equipment to a three wire AC outlet (two poles plus ground). The receptacle must be connected to appropriate branch circuit/mains protection (fuse or circuit breaker). Connection to any other type of receptacle may result in a shock hazard.



CAUTION! Deenergizing Safety

- If the equipment has an external battery pack connected, the output may be energized when the unit is not connected to an AC power outlet.
- To deenergize **pluggable equipment**: first press the Off button for more than one second to switch the equipment off. Next disconnect the equipment from the AC power outlet. Finally, disconnect the battery.
- To deenergize **permanently wired** equipment: set the power switch to standby . Next set the AC circuit breaker to standby . Then disconnect the batteries (including any expansion units). Finally, disconnect the AC power from the building power supply.
- Pluggable equipment includes a protective earth conductor which carries the leakage current from the load devices (computer equipment). Total leakage current must not exceed 3.5 mA.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly effect its safety or effectiveness is not recommended.



WARNING! Battery Safety

- **This equipment contains potentially hazardous voltages.** Do not attempt to disassemble the unit. Battery replacement using the procedures below is permissible. The unit contains no user serviceable parts. Repairs are performed only by factory trained service personnel.



Batteries must be recycled. Deliver the battery to an appropriate recycling facility or ship it to the supplier in the new battery's packing material. See the new battery instructions for more information.

- 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.
- To avoid personal injury due to energy hazard, remove wrist watches and jewelry such as rings when replacing the batteries. Use tools with insulated handles..

Table of Contents

Introduction.....	1
Unpacking.....	1
Installation.....	1
Initial Startup.....	6
Operating Instructions.....	7
User Configuration Items.....	9
Storage.....	9
Battery Charge and Run Times.....	10
Troubleshooting.....	11
Service.....	12
Limited Warranty.....	12
APC Contact Information.....	12

Introduction

About Your New UPS

This Uninterruptible Power Supply (UPS) is designed to prevent blackouts, brownouts, sags and surges from reaching your computer and other valuable electronic equipment. This UPS also filters out small utility line fluctuations and isolates your equipment from large disturbances by internally disconnecting from the utility line, while supplying power from its external batteries until the utility line returns to safe levels.

Unpacking

Inspection

Inspect the UPS upon receipt. Notify the carrier and dealer if there is damage. The packaging is recyclable; save it for reuse or dispose of it properly.

Contents

The shipping package contains the UPS, four IEC jumper cords, one C19 jumper cord, and a cable assembly to connect the battery.

Caution:

The 5000 VA model must be moved by a forklift due to its weight.

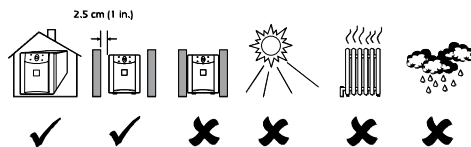
Installation

Installing your UPS requires six steps:

1. Position the UPS in the desired location..
2. Hardwire the electrical connections on the input and output sides (must be done by an authorized electrician).
3. Connect the external batteries (UXBP48M or equivalent fused battery packs are recommended).
4. Power up the UPS.
5. Install PowerChute® UPS monitoring software and accessories.
6. Program the UPS with the number of external battery packs connected.

1. Position the UPS

Placement



Install the UPS in a protected area that is free of excessive dust and has adequate air flow. Do not operate the UPS where the temperature and humidity are outside the specified limits.

Warning!

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the warranty.

- UPS are heavy. Select a location sturdy enough to handle the weight.
- Select a location with adequate air flow that is free from excessive dust. Ensure that any air vents on the sides of the UPS are not blocked.
- Do not operate the UPS where temperature is outside 0 to 40°C (+32 to +104°F) or humidity is outside 0 to 95%, non-condensing

2. Hardwire the Electrical Connection

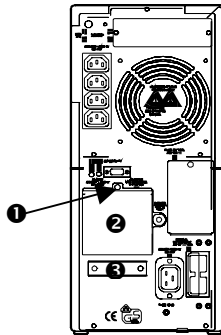
Caution:

The electrical connection must be made by an authorized electrician according to national and local regulations. Verify that the supply line contains a 25 Ampere circuit breaker BEFORE hardwiring the UPS.

Ensure that the batteries are not installed in the UPS until the hardwiring is complete.

Incorporate a readily accessible disconnect device in the fixed wiring design.

1. Select the appropriate wire size and connectors. For most applications, #10 AWG (5 sq. mm) wire should be sufficient.
2. The input and output wiring terminals are located on the rear panel of the UPS. Remove the hardwire cover ❷ by unscrewing the single screw ❶ that holds it in place.

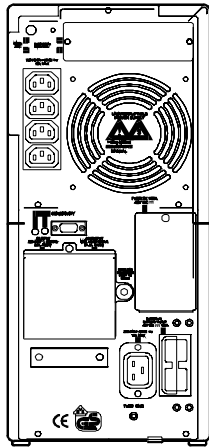


3. Use a screwdriver to loosen the Strain clamp ❸.
4. Feed the input wire cable through the strain clamp on the left side and feed the output wire cable through the strain clamp on the right side.
5. Use a knife or pliers to strip off the plastic on the end of the cable to expose the copper wire. Strip all six wires.
6. Use a flathead screwdriver to connect the wires to the terminal block inside the UPS. Loosen the screw, then feed the copper wire into the terminal block and tighten the screw. Make sure the terminal block is wired from left to right as shown in the following table:

Input Cable	Input Cable	Input Cable	Output Cable	Output Cable	Output Cable
Black (Hot)	White (Neutral)	Green (Ground)	Green (Ground)	Black (Hot)	White (Neutral)

7. Once all the wires are connected to the terminal block, verify consistency of colors on the top and bottom of the terminal block.
8. Inspect the connections and location of the excess wires before tightening the strain clamp.
9. Using a screwdriver tighten the strain clamp securing the cables.
10. Replace the hardwire cover and fasten with the screw (removed in step 2).

3. Connect the External Batteries

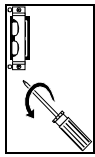


The SU5000UXI contains no internal batteries. The figure shows the location of the battery pack connector on the UPS. Battery pack connectors are color coded; the 48 Vdc UXBP48M connector is blue. Battery pack connectors are also keyed to prevent improper connection.

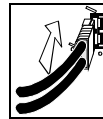
Do not try to install battery packs with connectors that are a different color from the battery pack connector in the UPS.

The SU5000UXI can support a maximum of 10 battery packs.

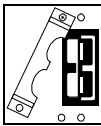
If a DC bus is to be used for inverter operation, a voltage between 42 and 45 volts is recommended for continuous operation greater than two hours at room temperature.



1. Prepare the UPS to connect the battery pack(s). Note the holes used to attach the battery pack connector clamp (near the center of the connector opening). Use a #2 Phillips head screwdriver to remove the battery pack connector clamp from the back of the UPS.



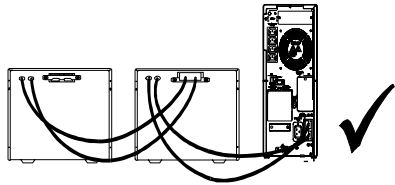
3. Holding the clamp aside, insert the battery pack connector into the UPS.



2. Turn the clamp over and loosely attach one end at the edge of the connector opening in the UPS.



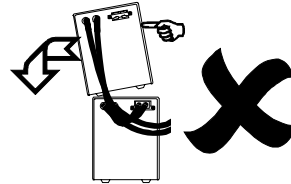
4. Secure the connector clamp.



Correctly completed UXI installation with two battery packs.

For additional battery packs, repeat this procedure using the battery pack connectors on the battery packs.

Note: Do not stack battery packs. Stacking results in a tipping hazard.



4. Connect Power to the UPS

- The main SU5000UXI output is hardwired in *Step 2. Hardwire the Electrical Connection*, page 2. The auxiliary IEC and C19 connectors are not designed for equipment requiring more than 10A total.

Caution:

DO NOT use a standard serial interface cable to connect to the Computer Interface Port on the UPS. Standard serial interface cables are incompatible with the UPS connector. Use the cable provided with your UPS.

- Turn on all connected equipment.

5. Install PowerChute and Accessories

For additional computer system security, install PowerChute UPS monitoring software. It provides automatic unattended shutdown capabilities on most major network operating systems. Once PowerChute is loaded, install the PowerChute® black communication cable between UPS and computer. See the *Software Installation: Instruction Sheet* for details.

Notes:

This UPS is equipped with one accessory slot. See the APC website (www.apc.com) for available accessories. If a standard accessory is installed in this UPS, follow the installation instructions for the accessory, which are included in the package.

6. Program the SU5000UXI with the number of external battery packs connected

Smart-UPS UXI models are not designed to know how many external battery packs are connected to them. A customer must program the Smart-UPS UXI with the appropriate number of external batteries in one of four ways.

It is important to follow these instructions. The number of batteries affects the runtime calculations which Smart-UPS performs when it is running on battery power.

Use PowerChute® plus version 5.x for Windows 95, Windows 98, Windows NT.

PowerChute® plus 5.x for Windows NT is compatible with NT 3.5.1 SP5, NT 4.0 Workstation (at least SP1), or NT 4.0 Server (at least SP1).

Install the software per the instructions on the CD.

After rebooting the computer, access the PowerChute® *plus* graphical user interface.

1. Click on **Configuration**.
2. Click on **UPS Operating Parameters**.
3. Adjust the **External Battery Pack** field to the appropriate number of external batteries.
4. Click **OK**.

Use the Terminal Program to change the number of external battery packs

Terminal is used in Windows 3.1x, Windows for Workgroups, and Windows NT 3.51.

1. EXIT out of the **PowerChute® plus Server**. In the case of Windows NT, the UPS Service must be stopped.
2. Go to: **Program Manager > Accessories > Terminal**. Double-click on the **Terminal** icon.
3. Select the COM port to which the black-colored interface cable is attached as the Connector.
4. The COM port settings are 2400 baud, 8 data bits, 1 stop bit, no parity, flow control is Xon/Xoff.
5. Click **OK**.
6. Continue with the steps in Table 1, page 5.

Use the HyperTerminal Program to change the number of external battery packs

HyperTerminal is used for Windows 95, Windows 98, and Windows NT 4.0

1. EXIT out of the **PowerChute® plus Server**. In the case of Windows NT, the UPS service must be stopped.
2. From the Desktop, go to: **Start => Programs => Accessories => HyperTerminal**. Double-click on the **HyperTerminal** icon.
3. You are prompted to choose a name and select an icon. Give any name and then click **OK**. If a message appears which reads "...must install a modem," disregard it and continue.
4. The port settings are 2400 baud, 8 data bits, 1 stop bit, no parity, flow control is Xon/Xoff.
5. Click on **Advanced** and ensure the box labeled **FIFO buffer** is NOT checked.
6. Click **OK** twice.
7. Once the terminal/hyperterminal window is open, follow the steps in Table 1.

Table 1

Step #	Type	Produced Effect
Step 1	Y	Produces SM
Step 2	>	To see the number of external packs. (A new unit will display 000.)
Step 3	+	Adds a battery pack.
Step 4	>	To see the change in number of external battery packs.
Step 5	-	Subtracts a battery pack.
Step 6	>	To see the change in number of external battery packs.

Use the Smart-UPS Battery Pack Utility (BATTPACK)

This program can be used with DOS or at a Windows DOS prompt.

BATTPACK cannot be used with a DOS emulator or VDM (virtual DOS machine) like those in Windows 95, Windows 98, or Windows NT.

The APC UPS Link cable must be used to communicate to the UPS. There are two black cables which can be used; part numbers 940-0024C or 940-1524C.

At the DOS prompt, type: **battpack com[X] [Y]** where:

[X] represents the available serial port that Battery Pack Utility uses to access the Smart-UPS.

[Y] represents the number of external battery packs.

For example: C:> **battpack com1 4**

The black cable is attached to communication port 1. There are four external battery packs. The program confirms that the update is successful.

Initial Startup



Charge the battery

The UPS charges its battery whenever it is connected to utility power. The battery will charge fully during the first four hours of normal operation. Do not expect full runtime during this initial charge period.



Connect Computer Interface Port (Optional)

Power management software and interface kits can be used with this UPS. Use only kits supplied or approved by the manufacturer. If used, connect the interface cable to the 9-pin computer interface port on the back panel of the UPS. Secure the connector's screws to complete the connection.

Caution:

DO NOT use a standard serial interface cable to connect to the Computer Interface Port on the UPS. Standard serial interface cables are incompatible with the UPS connector. Use the cable provided with your UPS.



Connect Ground Leads to TVSS Connector (Optional)

The UPS features a TVSS connector for connecting the ground lead on transient voltage surge-suppression (TVSS) devices such as telephone and network line protectors. The TVSS connector provides grounding through the UPS's power cord ground conductor. To make a connection to the TVSS connector, loosen the screw and connect the surge suppression device's ground lead. Tighten the screw to secure the lead.

Voltage Sensitivity

The UPS detects line voltage distortions such as spikes, notches, dips, and swells, as well as distortions caused by operation with inexpensive fuel-powered generators. By default, the UPS reacts to distortions by transferring to on-battery operation to protect the loads. Where power quality is poor, the UPS may frequently transfer to on-battery operation. If the loads can operate normally under such conditions, battery capacity and service life may be conserved by reducing the sensitivity of the UPS.



To reduce UPS sensitivity, press the configuration button on the rear panel. Use a pointed object such as a pen to press the button. Press it once to set the UPS's sensitivity to **reduced**. Press it again to set the sensitivity to **low**. Press the button a third time to reset **normal** sensitivity.



normal When the UPS is set to normal sensitivity, the configuration LED is brightly lit.



reduced When it is set to reduced sensitivity, the LED is dimly lit.



low When it is set to low sensitivity, the LED is off.

Low Battery Warning Interval

By default, the low battery warning occurs when there are approximately two minutes of on-battery run time remaining. This may not be enough time to gracefully shut down some protected computer systems.



To change the warning interval, press the rear panel configuration button while pressing and holding the front-panel on/test button.



2 min. When the LED is brightly lit, the low battery warning interval is approximately two minutes.



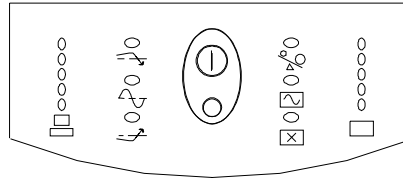
5 min. When the LED is dimly lit, the low battery warning interval is approximately five minutes.



7 min. When the LED is off, the low battery warning interval is approximately seven minutes.


Operating Instructions

Switch On — Switch Off



- ① With the UPS plugged in, press and release the large upper on/test button to supply power to the loads. The loads are immediately powered while the UPS beeps and performs a self-test.
- Press and release the small, lower off button to turn off power to the loads. It may be convenient to use the UPS as a master on/off switch for the protected equipment.






Note: Whenever the UPS is plugged in and utility voltage is present, the charger maintains battery charge.

 The on-line LED illuminates when the UPS is supplying utility power to the loads.

On Battery

During on-battery operation, the on-battery LED illuminates and the UPS sounds an audible alarm consisting of four beeps every 30 seconds. The alarm stops when the UPS returns to on-line operation.

Battery Charge Bar Graph

 100%
 80%
 60%
 40%
 20%

The 5-LED display on the right of the front panel shows the present charge of the UPS's battery as a percentage of the battery's capacity. When all five LEDs light, the battery is fully charged. The top LED goes out whenever the battery is not 100% charged. When the lowest LED is flashing, the battery can supply less than two minutes of run time for the load.


Shutdown Mode

In shutdown mode the UPS stops supplying power to the load, waiting for the return of utility power. If there is no utility power present, external devices (e.g., servers) connected to the computer interface or the accessory slot can command the UPS to shut down. This is normally done to preserve battery capacity after the graceful shutdown of protected servers. The UPS will scroll the front panel indicators sequentially in shutdown mode.

Self-test

The UPS performs a self-test automatically when turned on, and every two weeks thereafter (by default). Automatic self-test eases maintenance requirements by eliminating the need for periodic manual self-tests.

During the self-test, the UPS briefly operates the loads on-battery. If the UPS passes the self-test, it returns to on-line operation.

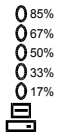
 If the UPS fails the self-test it immediately returns to on-line operation and lights the replace battery LED.

The loads are not affected by a failed test. Recharge the battery overnight and perform the self-test again. If the replace battery LED is still on, replace the battery.

Replace Battery

If the battery fails a self-test, the UPS emits short beeps for one minute and the replace battery LED illuminates. The UPS repeats the alarm every five hours. Perform the self-test procedure to confirm replace battery conditions. The alarm stops when the battery passes the self-test.

Load Bar Graph



The 5-LED display on the left of the front panel represents the power drawn from the UPS as a percentage of total capacity. For example, if three LEDs are lit, the load is drawing between 50% and 67% of the UPS's capacity. If all five LEDs light, thoroughly test your complete system to make sure that the UPS will not become overloaded.

Overload

When the UPS is overloaded (the connected loads exceed 5000 VA / 3750 W), the overload LED comes on and the UPS emits a sustained tone. The alarm remains on until the overload is removed. Disconnect nonessential load equipment from the UPS to eliminate the overload.

SmartTrim

This LED comes on to indicate that the UPS is compensating for a high voltage.

SmartBoost

This LED comes on to indicate that the UPS is compensating for a low voltage.


Low Battery

When the UPS is operating on-battery and the energy reserve of the battery runs low, the UPS beeps continuously until the UPS shuts down from battery exhaustion or returns to on-line operation.

Cold Start

When the UPS is off and there is no utility power, use the cold start feature to apply power to the loads from the UPS's battery.

Note:
Cold start is *not* a normal condition.

-  Press and hold the on/test button until the UPS beeps.
- Release the on/test button during the beep and the loads are powered within four seconds.

Note:
The UPS starts a self-test as a part of this procedure. The self-test does not affect the voltage display. The utility voltage bar graph has a margin of error of $\pm 4\%$.

User Configuration Items

Note: Setting these items requires optional software or hardware.			
Function	Factory Default	User Selectable Choices	Description
Automatic Self-Test	Every 14 days (336 hours)	Every 7 days (168 hours), On Startup Only, No Self-Test	Sets the interval at which the UPS will execute a self-test.
UPS ID	UPS_IDEN	Up to eight characters to define the UPS.	Use this field to uniquely identify the UPS for network management purposes.
Date of Last Battery Replacement	Manufacture Date	Date of Battery Replacement	Reset this date on battery replacement.
Minimum Capacity Before Return from Shutdown	0 percent	15, 50, 90 percent	The UPS will charge its batteries to the specified percentage before return from a shutdown.
Sensitivity	Normal	Reduced, Low	Set lower than normal sensitivity to avoid lowered battery capacity and service life in situations where the load can tolerate minor power disturbances.
Duration of Low Battery Warning	2 minutes	5, 7, 10 minutes	Sets the time before shutdown at which the UPS issues a low battery warning. Set higher than the default only if the OS needs the time for graceful shutdown.
Alarm Delay After Line Fail	5 second delay	30 second delay, At Low Battery Condition, No Alarm	To avoid alarms for minor power glitches, set the alarm delay.
Shutdown Delay	20 seconds	180, 300, 600 seconds	Sets the interval between when the UPS receives a shutdown command and when shutdown occurs.
Synchronized Turn-on Delay	0 seconds	60, 180, 300 seconds	To avoid branch circuit overload, the UPS will wait the specified time after the return of utility power before turn-on.
High Transfer Point	253	264, 271, 280	To avoid unnecessary battery usage, set the High Transfer Point higher if the utility voltage is chronically high and the load is known to work well under this condition.
Low Transfer Point	196	188, 204, 208	Set the Low Transfer Point lower if the utility voltage is chronically low and the load can tolerate this condition.

Storage

Storage Conditions

Store the UPS covered and upright in a cool, dry location, with its battery disconnected.

Battery Charge and Run Times

Note:
UPS battery life differs based on usage and environment.

The tables below show both the time required for charging UPS and battery pack batteries for rated protection and typical run times.

Note:
The SU5000UXI is designed for use with the UXBP48M or equivalent 48 Volt battery pack.

Typical Maximum Recharge Times (In Hours) To 90% Of Rated Capacity

Number of Battery Packs	Recharge Time	Number of Battery Packs	Recharge Time
1	5	6	18
2	8	7	20.5
3	10.5	8	23
4	13	9	25.5
5	15.5	10	28

SU5000UXI Typical On-battery Run Times

Load VA	With 1 battery pack	With 2 battery packs	With 3 battery packs	With 4 battery packs	With 5 battery packs	With 6 battery packs
1000	4.3	9.0	14.5	20.0	25.0	30.0
2000	2.1	4.8	7.5	9.9	12.5	15.0
3000	1.2	2.4	3.6	4.8	6.0	7.2
4000	0.5	1.4	2.3	3.2	4.0	4.8
5000	0.3	0.8	1.4	2.0	2.5	3.0

Troubleshooting

Use the chart below to solve minor UPS installation problems. Contact APC Technical Support Staff for assistance with complex UPS problems. See *APC Contact Information* page 12, for a location near you.

Problem and Possible Cause	Solution
<p>UPS will not turn on.</p> <ul style="list-style-type: none"> • ON button not pushed. • UPS not connected to AC power supply. • UPS input circuit breaker tripped. • Very low or no utility voltage. • Battery not connected properly. 	<p>Press the ON button once to power the UPS and the load. Check that the power cable from the UPS to the power supply is securely connected at both ends.</p> <p>Reduce the load on the UPS by unplugging equipment and reset the circuit breaker (on back of UPS) by pressing the plunger back in.</p> <p>Check the AC power supply to the UPS with a table lamp. If very dim, have the utility voltage checked.</p> <p>Confirm the battery connections.</p>
<p>UPS will not turn off.</p> <ul style="list-style-type: none"> • Internal UPS fault. 	<p>Do not attempt to use the UPS. Unplug the UPS and have it serviced immediately.</p>
<p>UPS operates on-battery although normal line voltage exists.</p> <ul style="list-style-type: none"> • UPS's input circuit breaker tripped. • Very high, low, or distorted line voltage. Inexpensive fuel powered generators can distort the voltage. 	<p>Reduce the load on the UPS by unplugging equipment and reset the circuit breaker (on back of UPS) by pressing the plunger back in.</p> <p>Move the UPS to a different outlet on a different circuit. Test the input voltage with the utility voltage display. If acceptable to the load, reduce the UPS's sensitivity. Refer to <i>Voltage Sensitivity</i>, page 6, for procedures.</p>
<p>UPS beeps occasionally.</p> <ul style="list-style-type: none"> • Normal UPS operation. 	<p>None. The UPS is protecting the load.</p>
<p>UPS does not provide expected backup time.</p> <ul style="list-style-type: none"> • The UPS's battery is weak due to recent outage or is near the end of its service life. • The UPS is overloaded. 	<p>Charge the battery. Batteries require recharging after extended outages. Also, they wear faster when put into service often or when operated at elevated temperatures. If the battery is near the end of its service life, consider replacing the battery even if the replace battery indicator is not yet lit.</p> <p>Check the UPS's load display. Unplug less needed equipment, such as printers.</p>
<p>Front panel indicators flash sequentially.</p> <ul style="list-style-type: none"> • The UPS has been shut down by remote control. 	<p>None. The UPS will restart automatically when utility power returns.</p>
<p>All indicators are lit and UPS emits a constant beeping.</p> <ul style="list-style-type: none"> • Internal UPS fault. 	<p>Do not attempt to use the UPS. Turn the UPS off and have it serviced immediately.</p>
<p>All indicators are off and UPS is plugged into wall outlet.</p> <ul style="list-style-type: none"> • The UPS is shut down and the battery is discharged from an extended outage. 	<p>None. The UPS will return to normal operation when the power is restored and the battery has a sufficient charge.</p>
<p>The replace battery light is lit.</p> <ul style="list-style-type: none"> • Weak batteries. • Replacement batteries not connected properly. 	<p>Do another self test to see if it clears.</p> <p>Confirm the battery connections.</p>

Service

If the UPS requires service do not return it to the dealer!

Follow these steps:

1. Review the problems discussed in *Troubleshooting*, page 14, to eliminate common problems.
2. Verify that no circuit breakers are tripped. A tripped circuit breaker is the most common UPS problem!
3. If the problem persists, call Customer Service or visit the APC Internet Website (www.apc.com).
 - Note the model number of the UPS, the serial number, and the date purchased. A technician will ask you to describe the problem and try to solve it over the phone, if possible. If this is not possible the technician will issue a Returned Material Authorization Number (RMA#).
 - If the UPS is under warranty, repairs are free. If not, there is a repair charge.
4. Pack the UPS in its original packaging. If the original packing is not available, ask Customer Service about obtaining a new set.

Note:

Pack the UPS properly to avoid damage in transit. Never use Styrofoam beads for packaging. Damage sustained in transit is not covered under warranty.

5. Mark the RMA# on the outside of the package.
6. Return the UPS by insured, prepaid carrier to the address given to you by Customer Service.

Limited Warranty

American Power Conversion (APC) warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from customer support (see the *Service* section of the *User's Manual*). Products must be returned with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

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APC Contact Information

Internet <http://www.apc.com/support/contact>