Smart-UPS® RC

Uninterruptible Power Supply
Tower/Rack-Mount 4U

UXI/UXICH

SRC1000/2000/3000 VA

220/230/240 Vac

English

Introduction

Overview

The American Power Conversion (APC®) Smart-UPS® RC is a high performance uninterruptible power supply (UPS) that provides protection for electronic equipment from utility power blackouts, brownouts, sags and surges. The UPS protects electronic equipment from small utility fluctuations and large disturbances by providing continuous on-line double converted power. The UPS provides battery backup until utility power returns to safe levels or the batteries are fully discharged.

Unpack package contents

Read the Safety Guide before installing the UPS.

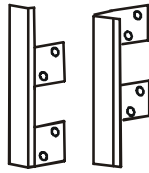Inspect the UPS upon receipt. Notify the carrier and dealer if there is damage.

The packaging is recyclable; save it for reuse or dispose of it properly.

Check the UPS package contents:

- UPS
- Front bezel
- Front panel display
- External battery cable
- Serial cable
- Rack-mount/stabilizer brackets
- Hardware supplied listed in table below

- Literature kit containing:
    – Product documentation
    – Smart-UPS® RC User Manuals CD
    – PowerChute® Utility CD
    – Safety information
    – Warranty information

NOTE: The model and serial numbers are located on a small, rear panel label. For some models, an additional label is located on the chassis under the front bezel.

Hardware supplied

8		Rack-mount configuration: Pan head screws for securing rack-mount brackets to unit
2		Tower configuration: Flat head screws for securing stabilizer brackets unit
2		Rack-mount configuration brackets Tower configuration stabilizer brackets

su0211b

Accessories

Install accessories prior to connecting power to the UPS.

Refer to the APC Web site, **www.apc.com** for available accessories.

Optional accessories

- External battery pack

- 4-post rail kit

- 600 W internal battery charger

Specifications

Environmental Specifications

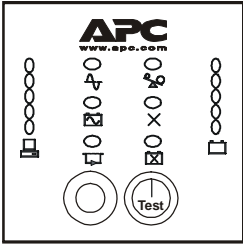<table>
<tr><td rowspan="2">Temperature</td><td>Operating</td><td>0° to 40° C (32° to 104° F)</td><td rowspan="2">This unit is intended for indoor use only. Select a location sturdy enough to handle the weight.</td></tr>
<tr><td>Storage</td><td>-15° to 45° C (5° to 113° F)</td></tr>
<tr><td rowspan="2">Maximum Elevation</td><td>Operating</td><td>3,000 m (10,000 ft)</td><td rowspan="2">Do not operate UPS where there is excessive dust or temperature or humidity are outside specified limits.
Be sure air vents on UPS are not blocked. Allow adequate space for proper ventilation.</td></tr>
<tr><td>Storage</td><td>15,000 m (50,000 ft)</td></tr>
<tr><td>Humidity</td><td></td><td>0 to 95% relative humidity, non-condensing</td><td>Environmental factors impact battery life. High temperatures, poor utility power, and frequent, short duration discharges will shorten battery life.</td></tr>
</table>

Physical Specifications

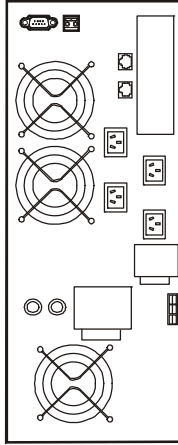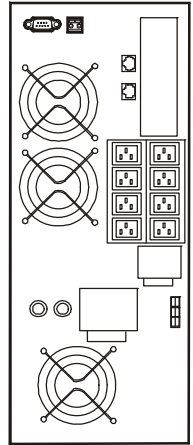| **Weight - Refer to Safety Guide supplied with this unit for lifting guidelines.**		
UPS model	**1000 VA**	**2000/3000 VA**
	14 kg 31 lbs	16 kg 36 lbs
Maximum number of XLBPs supported by Smart-UPS RC		10 **Combined weights of UPS and all XLBPs installed in a rack must not exceed rack weight limits.**
Dimensions - Length x Width x Height	46 cm (18 in) **x** 43 cm (17 in) **x** 18 cm (7 in)	

Front and rear panels
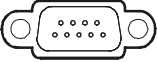
Front Display Panel

su0311a
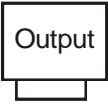
UXICH Model
Rear Panel
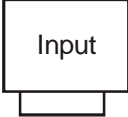
su0313a

UXI Model
Rear Panel

su0314a

Rear panel Features	
	SRC1000UXICH model has one input circuit breaker. Other models have two input circuit breakers. The input circuit breakers protect the UPS from extreme overload conditions.
	Serial port for: • Power management software • Interface kits **Use only interface kits supplied or approved by APC. Any other serial interface cable will be incompatible with UPS connector.**
	The UPS is equipped with surge protected Network In and Network Out connectors.
	Emergency Power Off (EPO) terminal allows user to connect UPS to central EPO system.
Output Input	Covers for output and input hardwire terminal blocks.
	External battery pack connector

Installation

⚠ **Units may vary in appearance from those depicted in this manual.**

Always place UPS above XLBPs in rack-mount configuration.

Connect all battery strings. Failure to do so may cause equipment damage.

Refer to *Physical Specification*s in this manual and the Safety Guide before installing units.
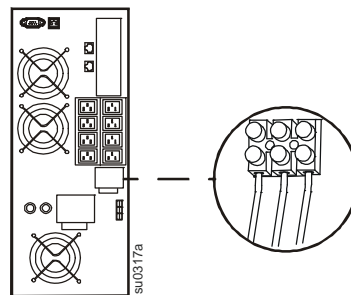
Unit is heavy. Batteries must be removed from unit prior to installation

Output hardwire instructions

Adhere to all national and local electrical codes.

Wiring must be performed by a qualified electrician.

- Use 1.3 mm^2 (#16 AWG) wire (not supplied)
- Maximum output rating: 220-240 V, 50-60 Hz, 10 A

1. Locate the hardwire terminal block cover on rear panel of UPS. Remove the screw securing the cover and remove cover.
2. Connect wires to terminal block. Terminals are labelled for proper wire configuration.
3. Replace and secure cover removed in *step 1*.

Input hardwire instructions

Adhere to all national and local electrical codes.

Wiring must be performed by a qualified electrician.

- Use 3.3 mm^2 (#12 AWG) wire (not supplied)
- Install a high magnetic 30/32 A utility circuit breaker
- Maximum input rating: 220-240 V, 50-60 Hz, 25 A

1. Switch the circuit breaker OFF.
2. Locate the hardwire terminal block cover on rear panel of UPS. Remove the screw securing the cover and remove cover.
3. Connect wires to terminal block and secure using torque 16 lb-in. Terminals are labelled for proper wire configuration.
4. Replace and secure cover removed in *step 2*.
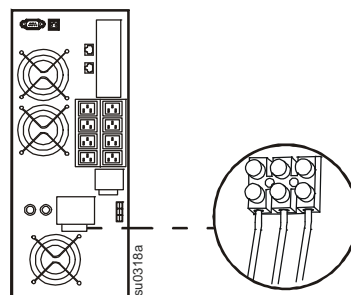
Connect the internal battery charger

2000/3000 VA UXI/UXICH models are equipped with a 600 W internal battery charger. These models can accommodate an optional 600 W internal battery charger. To order an optional 600 W internal battery charger contact APC at www.apc.com.

1000 VA UXI/UXICH models are equipped with a 250 W internal battery charger.

1000 VA UXI models can accommodate an optional 600 W internal battery charger. To order an optional 600 W internal battery charger contact APC at www.apc.com.

1000 VA UXICH models do not support an additional internal battery charger.

Tower configuration

Install stabilizer brackets

1. Stabilizer brackets must be installed on tower units.
2. Each bracket must be secured with two flat head screws (supplied).

   NOTE: Screws are pre-installed on left side of unit. These screws must be removed from unit and used to secure stabilizer bracket. Screws for securing stabilizer bracket to right side of unit are included in hardware bag supplied with unit.

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Install display panel

Locate UPS display panel in UPS packaging.

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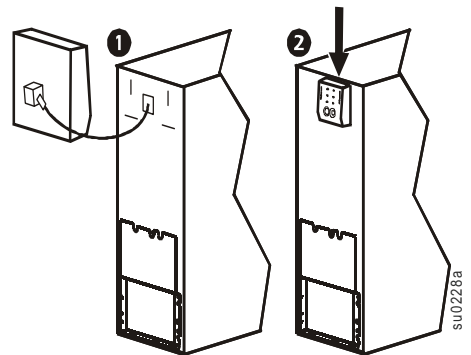
Install bezel

1. Fit three tabs on bottom inside edge of the bezel into slots in chassis.
2. Tip bezel forward. Fit two tabs on top inside edge of bezel into slots in chassis and snap bezel into position.

su0244a

2-post rack-mount configuration

This UPS is intended for installation in a 19", two-post or four-post rack.

For details on 4-post rail and rack installation refer to instructions in rail kit.

Remove stabilizer brackets if they are installed. Remove four screws that secure each bracket.

Remove and rotate display panel

1. To remove display panel from UPS, slide display panel up. This will disengage display panel tabs from UPS.
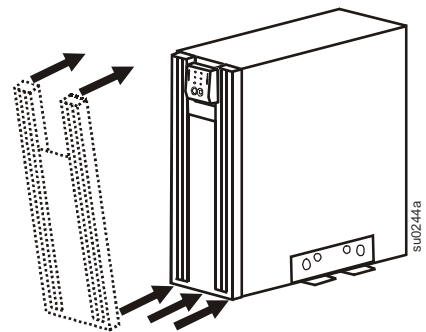2. Rotate display panel and insert tabs on display panel into appropriate slots on UPS.
3. Secure display panel to UPS by sliding display panel to the right.
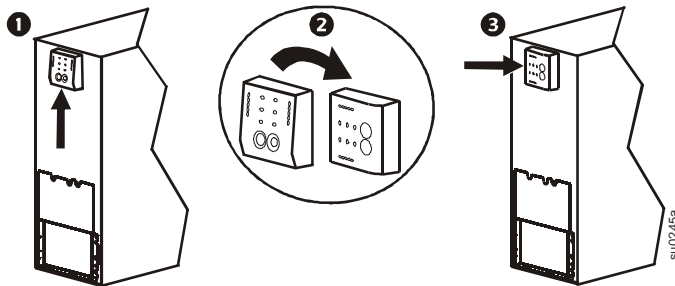
Position UPS for mounting in rack

The UPS is heavy. Use caution when positioning UPS.

NOTE: The holes for securing rack-mount brackets are plugged. Remove the appropriate plugs prior to installing brackets on the unit.
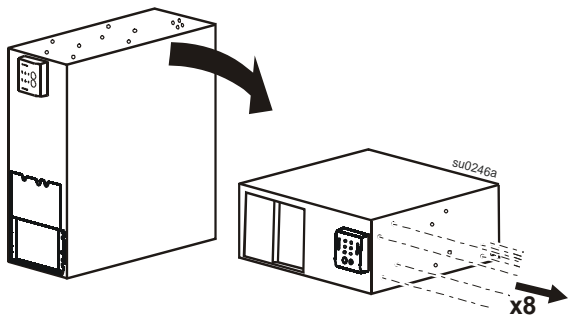
Install rack-mount brackets

Four pan head screws (supplied), must be used to secure each rack-mount bracket to UPS.
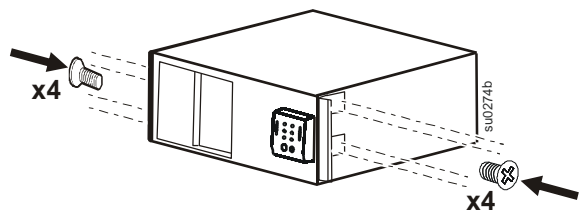
Secure 2-post rack to floor
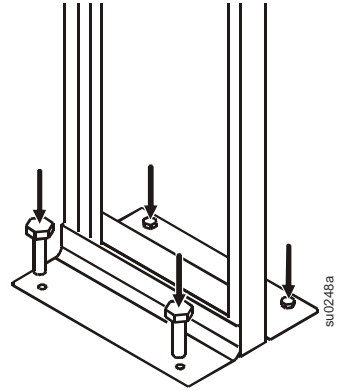
Install UPS in rack

The UPS and XLBPs should be installed at or near bottom of rack. Always place UPS above XLBPs. Batteries must be removed from units prior to installation in a rack.

Two screws (not supplied), must be used to secure each rack-mount bracket to rack.
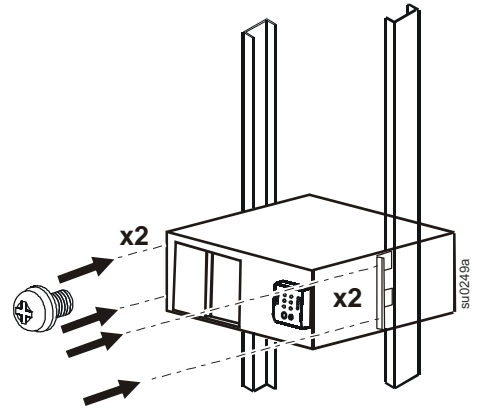
Install display panel

Locate UPS display panel in UPS packaging.

Install display panel as shown in diagram.
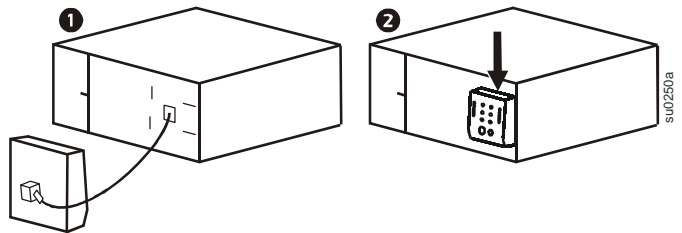
Install bezel

1. Fit three tabs on inside edge of bezel into slots in chassis.
2. Tip bezel toward chassis. Fit two tabs on inside edge of bezel into slots in chassis and snap bezel into position.
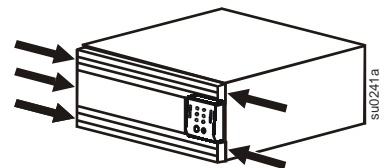
Start-up

Connect equipment and external battery packs to UPS

⚠ **Prior to connecting the grounding cable, ensure that the UPS is NOT connected to utility or battery power.**

1. Connect equipment to UPS (cables not supplied). **Avoid using extension cords.**
2. External battery packs provide extended runtime during power outages. This unit supports up to ten external battery packs. Refer to the APC Web site, **www.apc.com** for information. Refer to the user manual for the external battery pack for installation instructions.
3. Switch the circuit breaker ON.
4. To use UPS as a master on/off switch be sure all connected equipment is switched on. Equipment will not receive power until UPS is turned on.
5. Configure Network Management card (NMC). Refer to NMC documentation for instructions.

Start the UPS

The charge time for external batteries will vary depending on the number of batteries connected to the UPS. Refer to the APC Web site, **www.apc.com** for APC battery runtimes.

Press the **TEST** button located on the front panel of UPS.

Operation

Front panel display

Load
◯ 85%
◯ 68%
◯ 51%
◯ 34%
◯ 17%

Battery Charge
◯ 96%
◯ 72%
◯ 48%
◯ 24%
◯ <24%
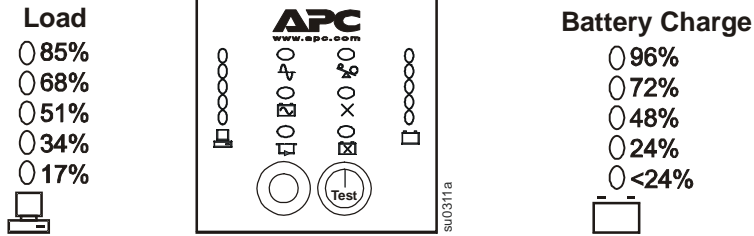
Display panel function buttons and indicators

UPS function buttons	
Button	**Function**
(Test)	This button has three functions. • Press this button to turn on the UPS. • Press this button to initiate a **Cold Start**. Cold Start is not a normal condition. When there is no utility power and UPS is off, press and hold this button to restore power to UPS. UPS will emit two beeps. During second beep, release the button. • Press this button to initiate a **Self-Test**. **Automatic:** The UPS performs a self-test automatically when turned on, and every two weeks there after by default. During self-test, UPS briefly operates on battery power. **Manual:** Press and hold **Test** button for a few seconds to initiate self-test.
◯	This button is used to switch UPS off.

UPS indicators

Indicator	Description
On Line	The On Line LED illuminates when UPS is drawing utility power and performing double conversion to supply power to connected equipment.
On Battery	The UPS is supplying battery power to connected equipment.
Bypass	The Bypass LED illuminates indicating that UPS is in bypass mode. Utility power is sent directly to connected equipment during bypass mode operation. Bypass mode operation is the result of an internal UPS fault or an overload condition. Refer to *Troubleshooting* in this manual. **Battery operation is not available while UPS is in bypass mode.**
Fault	The UPS detects an internal fault. Refer to *Troubleshooting* in this manual.
Overload	An overload condition exists.Refer to *Troubleshooting* in this manual.
Battery Fault	The battery is disconnected or must be replaced. Refer to *Troubleshooting* in this manual.
230V 266 248 229 210 192	The UPS has a diagnostic feature that indicates utility voltage. The UPS starts a self-test as part of this procedure. The self-test does not affect voltage display. Press and hold the **Test** button to view utility voltage bar graph indicator. As soon as the **On Line** LED starts flashing indicating a self-test is in progress, the five-LED **Battery Charge** indicator to the right of the display panel will show utility input voltage. Refer to diagram for voltage reading. Values are not listed on the UPS. Indicator on UPS shows voltage is between displayed value on list and the next higher value, Refer to *Troubleshooting* in this manual for more details.

Configuration

UPS Settings

Settings are adjusted through PowerChute software or optional SmartSlot accessory cards.

Function	Factory Default	User Selectable Choices	Description
Automatic Self-Test	On start-up and every 14 days (336 hr) there after	• Every 7 days (168 hr) • On start-up and every 14 days (336 hr) there after • On start-up only • No self-test	Set the interval at which the UPS will execute a self-test.
UPS ID	UPS_IDEN	Up to 8 characters (alphanumeric)	Uniquely identify UPS, (i.e. server name or location) for network management purposes.
Date of last battery replacement	Manufacture date	mm/dd/yy	Reset date when you replace the battery module.
Minimum capacity before return from shutdown	0%	0%, 15%, 25%, 35%, 50%, 60%, 75%, 90%	Specify percentage to which batteries will be charged following a low battery shutdown before powering connected equipment.
Alarm delay control	Enable	Enable, Mute, Disable	• Mute ongoing alarms. • Disable all alarms permanently.
Shutdown delay	20 seconds	0, 20, 60, 120, 240, 480, 720, 960 seconds	Set interval between time when UPS receives a shutdown command and actual shutdown.
Low battery warning PowerChute software interface provides automatic, unattended shutdown when approximately two minutes of battery operated run time remains.	2 minutes	2, 5, 7, 10, 12, 15, 18, 20 minutes	The low-battery warning beeps are continuous when two minutes of run time remain. Change low battery warning interval setting to the time that the operating system or system software requires to safely shut down.
Synchronize turn-on delay	0 seconds	0, 20, 60, 120, 240, 480, 720, 960 seconds	Specify time UPS will wait after the return of utility power before start up, to avoid branch circuit overload.
High bypass point	+10% of output voltage	+5%, +10%, +15%, +20%	Maximum voltage that UPS will pass to connected equipment during internal bypass operation.
Low bypass point	-30%	-15%, -20%, -25%, -30%	Minimum voltage that the UPS will pass to connected equipment during internal bypass operation.

Function	Factory Default	User Selectable Choices	Description
Output voltage			Allows user to select output voltage while on-line.
220 V models	220 Vac	200, 208, 220, 230, 240 Vac	
230 V models	230 Vac	200, 208, 220, 230, 240 Vac	
Output frequency	Automatic 50 ± 3 Hz 60 ± 3 Hz	Automatic 50 ± 3 Hz, 50 ± 0.1 Hz, 60 ± 3 Hz, 60 ± 0.1 Hz	Sets allowable UPS output frequency. Whenever possible, output frequency tracks input frequency.
Number of battery strings	1	Number of connected battery strings	Defines number of connected battery strings for proper run time prediction.
		1000/2000 VA models	default setting of 1=432 VAh, 96 V x 4.5 Ah Refer to XLBP user manual for details on configuring UPS and # of battery strings.
		3000 VA models	default setting of 1=691 VAh, 96 V x 7.2 Ah Refer to XLBP user manual for details on configuring UPS and # of battery strings.
Configuration for a third party battery solution			
Examples: 1 battery string = 691 VAh, 96 V x 7.2 Ah; 2 battery strings = 1382 VAh, 96 V x 14.4 Ah			

Emergency Power Off (EPO)

The Emergency Power Off (EPO) option is a safety feature that will immediately remove power to all connected equipment. When EPO button is pushed, all connected equipment will immediately turn off and will not switch to battery power.

Adhere to all national and local electrical codes. Wiring must be performed by a qualified electrician.

The switch should be connected in a normally open switch contact. External voltage is not required; the switch is driven by 12 V internal supply. In closed condition, 2 mA of current are drawn.

The EPO switch is internally powered by the UPS for use with non-powered switch circuit breakers.

Connect the EPO
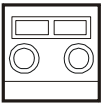
The EPO connector is located on the rear panel of the UPS.

1. Strip insulation from one end of each wire to be used for connecting EPO.
2. Insert a screwdriver into the slot above the terminal to be wired. Insert stripped wire into terminal. Remove screwdriver to secure wire in terminal. Repeat for each terminal.

The EPO interface is a Safety Extra Low Voltage (SELV) circuit. Connect it only to other SELV circuits. The EPO interface monitors circuits that have no determined voltage potential. Such closure circuits may be provided by a switch or relay properly isolated from the utility. To avoid damage to the UPS, do not connect the EPO interface to any circuit other than a closure type circuit.

Use one of the following cable types to connect the UPS to the EPO switch.

- CL2: Class 2 cable for general use.
- CL2P: Plenum cable for use in ducts, plenums, and other spaces used for environmental air.
- CL2R: Riser cable for use in a vertical run in a floor-to-floor shaft.
- CLEX: Limited use cable for use in dwellings and for use in raceways.
- For installation in Canada: Use only CSA certified, type ELC, (extra-low voltage control cable).
- For installation in other countries: Use standard low-voltage cable in accordance with national and local regulations.

External batteries

APC battery solution

Refer to the APC Web site, **www.apc.com** or an APC dealer for information regarding the APC external battery pack.

Third party battery solution

Batteries must be sealed lead-acid type. Use 50 A, 250 VDC fuses with an interrupt rating of $\geq$ 20,000 A.

The UPS internal battery chargers are optimized only for VRLA/AGM type batteries. **Do not** exceed the maximum recommended battery charging current rate when configuring the amp-hour capacity of the external battery system.

The UPS is intended for use with 96 VDC nominal battery voltage. The external battery system connected to the UPS must not exceed 96 VDC nominal voltage. This equals eight 12 V batteries connected in series.

Refer to the *Configuration* section in this manual for details on battery string configuration.

The internal battery chargers operate in a constant current/constant voltage charging mode.

- 1000 VA UXI/UXICH models with 250 W internal battery charger:
  Typical charging current is 2.2 A.
- 2000/3000 VA UXI/UXICH models with 600 W internal battery charger:
  Typical charging current is 5 A.

External batteries must be wired prior to connecting batteries to the UPS.

If using a non-APC battery pack, a 96 V battery string must be wired to the UPS using the enclosed battery cable.

Connect the UPS to a battery system

1. Connect the positive (red), ground (green), and negative (black), wires to the positive, ground, and negative terminals on each external battery system.
2. Plug the cable connector into the battery connector receptacle on the rear side of the UPS.
3. Secure the cable connector with one screw.
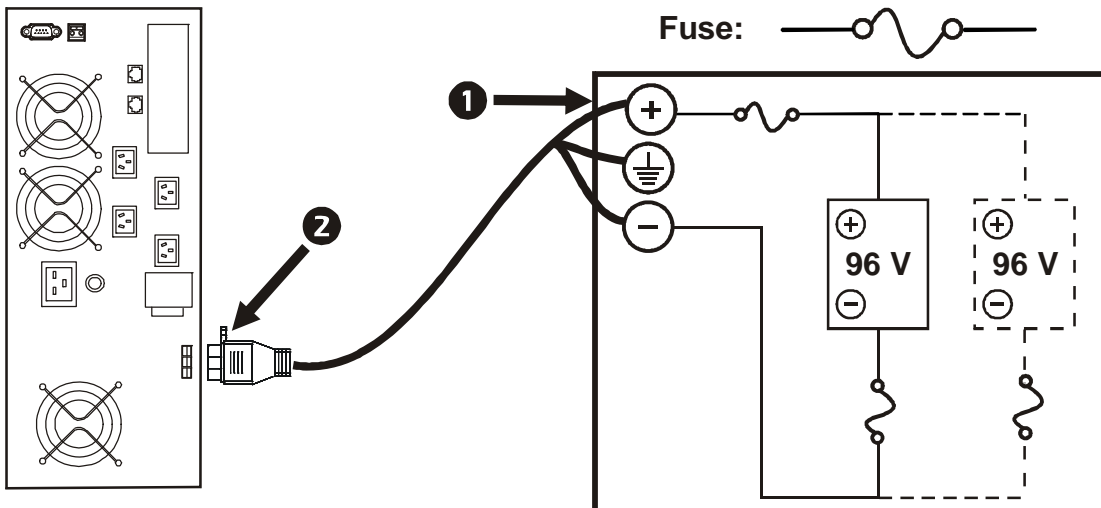
Configure UPS parameters

This configuration affects the accuracy of the predicted runtime calculations the UPS performs while running on battery power.

Refer to the *Battery String Configuration* tables at the end of this section for detailed instructions.

Smart-UPS RC models must be programed to recognize the number of battery strings connected to the UPS. There are four options available for configuring the UPS to recognize the number of battery strings

1. PowerChute® *Business Edition*: Refer to the instructions included with the software

2. Network Management Card (NMC) Web interface: Refer to the instructions included with NMC

3. Network Management Card (NMC) terminal mode: Refer to the instructions below

4. UPS terminal mode

Configure UPS connection settings using NMC terminal mode

Connect the serial cable to the serial com port on rear side of UPS.

1. Open a terminal program, such as HyperTerminal®.
   From the Desktop, go to: **Start, Programs, Accessories, Communication, HyperTerminal**

2. Follow the prompts to choose a name and select an icon. If the message, "...must install a modem," click **Cancel**.

3. Go to **File, Properties.** Select the COM port that is connected to your UPS. The port settings are:
   – **bits per second - 2400**
   – **data - bits 8**
   – **parity - none**
   – **stop bit - 1**
   – **flow control - none**

4. Click **OK** in each of two windows

5. Press **ENTER** to initiate connection to UPS.

Configure the number of battery strings using NMC terminal mode

1. Once the blank terminal window is open:

2. Press **ENTER** to initiate terminal mode. Press **ENTER** multiple times, until the prompt **User Name:** is displayed. Follow the prompts. Type slowly, waiting until each character appears on the screen prior to typing the next character.
Network Management Card defaults:

   - User Name: **apc**

   - Password: **apc**

3. Press **1** and **ENTER** to select Device Manager.
Select the model by entering the corresponding number, then press **ENTER.**

4. Press **3** and **ENTER** to select **Configuration.**

5. Press **1** and **ENTER** to select **Battery.**

6. Press **2** and **ENTER** to change **Battery Settings.**

7. Type in the number of battery strings then press **ENTER.**

8. Press **3** and **ENTER** to accept the changes.

9. Press **ESC** five times to return to the main menu.

10. Press 4 and **ENTER** to log out.

Configure UPS connection settings using UPS terminal mode

Connect the serial cable to the serial port on the back of the UPS. If using USB communication to the UPS, disconnect USB cable prior to connecting serial cable.

1. Open a terminal program, such as HyperTerminal
   From the Desktop, go to: **Start, Programs, Accessories, Communication, HyperTerminal**

2. Follow the prompts to choose a name and select an icon. Disregard the message, "...must install a modem," if it is displayed. Click **Cancel**

3. Go to **File, Properties.** Select the COM port that is connected to your UPS. The port settings are:

   – **bits per second - 2400**

   – **data - bits 8**

   – **parity - none**

   – **stop bit - 1**

   – **flow control - none**

4. Click **OK** in each of two windows

5. Press **ENTER**

Configure the number of battery strings using UPS terminal mode

1. Once the blank terminal window is open, follow these steps to enter the number of battery strings:
   NOTE: Letter key commands are case sensitive. Use capital letters when using letter key commands.

2. Press **Y**. The UPS will respond with **SM** in the command box. If the UPS does not respond to the **Y** command, ensure the serial cable is securely connected to the serial port on the UPS. Use only an APC supplied serial cable.

3. When **SM** appears in the command box press the **>** key. The UPS will respond with the number of battery strings connected to the UPS. If the UPS has not been previously programmed to recognize the number of battery strings this number will be zero.

4. Use the **+** or **-** keys to change the number of battery strings. **OK** will appear in the command box.

5. Press **>** key. The number of battery strings will appear in the command box.
   NOTE: The **+** or **-** keys and the **>** key must be used again to change the number of battery strings from this point in the programming.

6. Press **R**. The UPS will respond with **BYE** in the command box.

Troubleshooting

Use the table below to solve minor installation and operation problems. Refer to the APC Web site, **www.apc.com** for assistance with complex UPS problems.

Problem and/or Possible Cause	Solution
UPS will not turn on	
The battery is not connected properly.	Check that the battery connector is fully engaged.
Test button not pushed.	Press the **Test** button once to power-up the UPS and connected equipment.
The UPS is not connected to utility power supply.	Check that the power cable from the UPS to the utility power supply is securely connected at both ends.
Very low or no utility voltage.	Check utility power supply to UPS by plugging in a table lamp. If light is very dim, have utility voltage checked.
UPS will not turn off	
The UPS is experiencing an internal fault.	Do not attempt to use UPS. Unplug UPS and have it serviced immediately.
UPS beeps occasionally	
Normal UPS operation when running on battery.	None: UPS is protecting connected equipment. Press the **Test** button to silence this alarm.
UPS is not providing expected backup time	
The UPS battery(s) are weak due to a recent power outage or battery(s) are near the end of their service life.	Charge the battery(s). Batteries require recharging after extended outages. Batteries can wear faster when put into service often or when operated at elevated temperatures. If the battery(s) are near the end of their service life, consider replacing the battery(s) even if the **Battery Fault** LED is not yet illuminated.
Front panel LEDs flash sequentially	
The UPS has been shut down remotely through software or an optional accessory card.	None: UPS will restart automatically when utility power returns.
All LEDs are off and the UPS is plugged into a wall outlet	
The UPS is shut down or the battery is discharged from an extended outage.	None: UPS will restart automatically when utility power is restored and battery has a sufficient charge.
The Bypass and Overload LEDs are illuminated and the UPS emits a sustained alarm tone	
The UPS is overloaded.	Connected equipment exceeds specified "maximum load" as defined in *Specifications* on APC Web site, **www.apc.com.** The alarm remains on until overload is removed. Disconnect nonessential equipment from UPS to eliminate overload condition. The UPS continues to supply power as long as it is on line and circuit breaker does not trip; UPS will not provide power from batteries in the event of a utility voltage interruption.
Fault LED is illuminated	
Internal UPS fault.	**Do Not** attempt to use UPS. Turn UPS off and have it serviced immediately. Refer to APC Web site, **www.apc.com**.

Problem and/or Possible Cause	Solution
Bypass and Fault LEDs are illuminated	
The UPS has automatically switched to **Bypass** mode. Bypass mode operation is the result of an internal UPS fault or an overload condition while operating on utility power.	In the event an internal UPS fault occurs, **Do Not** attempt to use UPS. Turn UPS off and have it serviced immediately. Refer to APC Web site, **www.apc.com**.
Battery fault (Disconnected Battery/ Replace Battery) LED is illuminated	
The **Disconnected Battery/Replace Battery** LED flashes and a short beep is emitted every two seconds to indicate the battery is disconnected.	Check that the battery connectors are fully engaged.
Weak battery.	Allow battery to recharge for 24 hours and perform a self-test. If the problem persists after recharging, replace battery.
Failure of a battery self-test: **Disconnected Battery/ Replace Battery** LED illuminates and the UPS emits short beeps for one minute. The UPS repeats the alarm every five hours.	Allow battery to recharge for 24 hours. Perform the self-test procedure to confirm the replace battery condition. The alarm stops and the LED clears if the battery passes the self-test. If battery fails again, it must be replaced. The connected equipment is unaffected.
Input circuit breaker trips	
The connected equipment exceeds the specified "maximum load" as defined in *Specifications* on the APC Web site, **www.apc.com**.	Unplug all nonessential equipment from UPS. Reset circuit breaker.
There is no utility power	
There is no utility power and the UPS is off.	*120/230 V models only:* Use cold start feature to supply power to connected equipment from UPS battery(s). Press and hold the **Test** button. There will be a short beep followed by a longer beep. Release the button during second beep.
UPS operates on battery although line voltage exists	
The UPS input circuit breaker trips.	Unplug all nonessential equipment from UPS. Reset circuit breaker.
Your system is experiencing very high, low or distorted line voltage.	Move UPS to a different outlet on a different circuit: Inexpensive fuel powered generators may distort the voltage. Test input voltage with utility voltage display, (see *Operation* in this manual). If acceptable to connected equipment, reduce UPS sensitivity.
Diagnostic utility voltage	
All five LEDs are illuminated.	The line voltage is extremely high and should be checked by an electrician.
There is no LED illumination.	The line voltage is extremely low and should be checked by an electrician.
On Line LED	
There is no LED illumination.	The UPS is running on battery, or it must be turned on.
The LED is blinking.	The UPS is running an internal self-test.

Transporting the UPS

Prepare the UPS for transport

1. Disconnect UPS from any external batteries.
2. Shut down and disconnect all equipment connected to UPS.
3. Shut down and disconnect UPS from utility power.
4. Follow shipping instructions outlined in the *Service* section of this manual.

Regulatory Agency Approvals and Radio Frequency Warnings

Class A

This device complies with EN62040-2 Class A requirements. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Service

If the UPS requires service do not return it to the dealer. Follow these steps:

1. Review the problems discussed in *Troubleshooting* in this manual to eliminate common problems.
2. If the problem persists, contact APC Customer Support through the APC Web site, **www.apc.com**.

    a. Note the model number of the UPS, the serial number located on the rear side of the unit, and the date purchased. If you call APC Customer Support, a technician will ask you to describe the problem and attempt to solve it over the phone. If this is not possible, the technician will issue a Returned Material Authorization Number (RMA#).

    b. If the UPS is under warranty, repairs are free.

    c. Procedures for servicing or returning products may vary internationally. Refer to the APC Web site for country specific instructions.

3. Pack the UPS in its original packaging. If this is not available, refer to **www.apc.com** for information about obtaining a new set.

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

    b. **Always DISCONNECT THE UPS BATTERY before shipping in compliance with U.S. Department of Transportation (DOT) and IATA regulations.** The battery may remain in the UPS.

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

Contact Information

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Refer to the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.

    – **www.apc.com** (Corporate Headquarters)
    Connect to localized APC Web sites for specific countries, each of which provides customer support information.

    – **www.apc.com**
    Global support searching APC Knowledge Base and using e-support.

- Contact an APC Customer Support center by telephone or e-mail.
    Local, country-specific centers:
    go to **www.apc.com** for information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

Two-Year Warranty

The limited warranty provided by American Power Conversion (APC®) in this statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

Terms of warranty

APC warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. The obligation of APC under this warranty is limited to repairing or replacing, at its sole discretion, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence or misapplication or has been altered or modified in any way. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

Non-transferable warranty

This warranty extends only to the original purchaser who must have properly registered the product. The product may be registered at the APC Web site, www.apc.com.

Exclusions

APC shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user or any third person misuse, negligence, improper installation or testing. Further, APC shall not be liable under the warranty for unauthorized attempts to repair or modify wrong or inadequate electrical voltage or connection, inappropriate on-site operation conditions, corrosive atmosphere, repair, installation, start-up by non-APC designated personnel, a change in location or operating use, exposure to the elements, Acts of God, fire, theft, or installation contrary to APC recommendations or specifications or in any event if the APC serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

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Warranty claims

Customers with warranty claims issues may access the APC customer support network through the Support page of the APC Web site, www.apc.com. Select your country from the country selection pull-down menu. Open the Support tab at the top of the Web page to obtain contact information for customer support in your region.