



by Schneider Electric

Installation Guide Smart-UPS™ RC SRC2000XLI-CC, SRC3000 XLI-CC/XLIX551

Important Safety Messages

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation and maintenance of the Smart-UPS and batteries.

Read the instructions carefully and look at the equipment to become familiar with the equipment before trying to install, operate, service or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Product Handling Guidelines



<18 kg
<40 lb



18-32 kg
40-70 lb



32-55 kg
70-120 lb



>55 kg
>120 lb



Safety and General Information

Inspect the package contents upon receipt. Notify the carrier and dealer if there is any damage.

- This Smart-UPS is for indoor use only.
- All wiring must be performed by a qualified electrician.
- Changes and modifications to this unit not expressly approved by APC could void the warranty.
- Do not operate this Smart-UPS in direct sunlight, in contact with fluids, or where there is excessive dust or high humidity.
- Do not operate the Smart-UPS near open windows or doors.
- Be sure the air vents on the Smart-UPS are not blocked. Allow adequate space for proper ventilation.
Note: Allow a minimum of 20 cm clearance on both front and rear sides of the Smart-Smart-UPS.
- For a UPS with a factory installed power cord, connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.
- The battery typically lasts for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten battery life.
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- The batteries are heavy. Remove the batteries before installing the UPS and external battery packs (XLBPs), in a rack.
- Always install XLBPs at the bottom in rack-mount configurations. The UPS must be installed above the XLBPs.
- Always install peripheral equipment above the UPS in rack-mount configurations.
- The UPS will recognize as many as 10 external battery packs connected to the UPS.

Note: For each XLBP added, increased recharge time will be required.

- 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.
- Always recycle used batteries.
- Recycle the package materials or save them for reuse.

Battery safety

- Servicing of user replaceable batteries should be performed or supervised by personnel knowledgeable about batteries and required precautions.
- APC by Schneider Electric uses Sealed Maintenance-Free Lead Acid batteries. Under normal use and handling, there is no contact with the internal components of the batteries. Over charging, over heating or other misuse of batteries can result in a discharge of battery electrolyte. Released electrolyte is toxic and may be harmful to the skin and eyes.
- Use tool with insulated handles.
- Wear rubber gloves and boots.
- Determine if battery is either intentionally or inadvertently grounded. Contact with any part of a grounded battery can result in electric shock and burns by high short-circuit current. The risk of such hazards can be reduced if grounds are removed during installation and maintenance by a skilled person.
- This equipment contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Repairs are must performed only by factory trained service personnel.
- When replacing batteries, replace with the same number and type of batteries as originally installed in the equipment.
- Batteries typically last for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten battery life. Batteries should be replaced before end of life.
- Replace batteries immediately when the unit indicates battery replacement is necessary.
- CAUTION: Before installing or replacing the batteries, remove jewelry such as wristwatches and rings. High short circuit current through conductive 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 and may be toxic.

Deenergizing safety

The UPS contains internal batteries and may present a shock hazard even when disconnected from the branch circuit (mains). Before installing or servicing the equipment check that the;

- Input circuit breaker is in the OFF position
- XLBP battery modules are disconnected

Regulatory Agency Approvals and Radio Frequency Warnings

Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Product Description

The APC™ by Schneider Electric Smart-UPS™ is a high performance uninterruptible power supply (UPS). The UPS provides protection for electronic equipment from utility power blackouts, brownouts, sags, surges, small utility power fluctuations and large disturbances. The UPS also provides battery backup power for connected equipment until utility power returns to safe levels or the batteries are fully discharged.

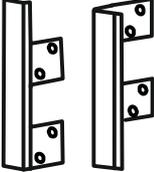
Unpack Package Contents

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

Check UPS package contents:

- UPS
- Front bezel
- Front display panel
- Input power cord
- Serial cable
- Stabilizer/rack-mount brackets
- Hardware supplied listed in table below
- Literature kit containing:
 - Product documentation
 - 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		Rack-mount configuration : Pan head screws (x8) for securing rack-mount brackets to unit
		Tower configuration: Flat head screws (x2) for securing stabilizer brackets unit
		Rack-mount configuration brackets: Tower configuration stabilizer brackets x2

Accessories

Install accessories prior to connecting power to the UPS.

Refer to the APC by Schneider Electric Web site, www.apc.com for available accessories.

Optional accessories

- External battery pack (XLBP)
- 4-post rail kit

Specifications

Environmental specifications

NOTICE

RISK OF EQUIPMENT DAMAGE

- Smart-UPS must be used indoors only.
- The installation location should be sturdy to withstand the weight of the Smart-UPS.
- Do not operate Smart-UPS where there is excessive dust or where the temperature or humidity are outside specified limits.
- Be sure air vents on UPS are not blocked. Allow adequate space for proper ventilation.
- Environmental factors impact battery life. High temperatures, poor utility power, and frequent, short duration discharges will shorten battery life.

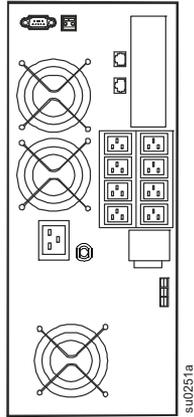
Failure to follow these instructions can result in equipment damage.

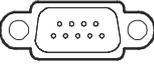
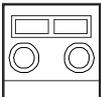
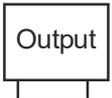
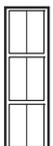
Temperature	Operating	0 °C to 40 °C (32 °F to 104 °F)
	Storage	-15 °C to 45 °C (5 °F to 113 °F) Charge UPS battery every six months
Elevation	Operating	3,000 m (10,000 ft)
	Storage	15,000 m (50,000 ft)
Humidity		0 to 95% relative humidity, non-condensing

Physical specifications

UPS	2000 VA	3000 VA
UPS with batteries	26 kg (57 lbs)	34 kg (75 lbs)
UPS without batteries	13 kg (29 lbs)	14 kg (31 lbs)
Each battery module	13 kg (29 lbs)	10 kg (22 lbs)
SRC2000 models: The 96 V battery string is a single module. SRC3000 models: The 96 V battery string consists of two 48 V battery modules.		
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)	

Rear Panel Features



	<p>The input circuit breaker protects the UPS from extreme overload conditions.</p>
	<p>Serial port for: Power management software Interface kits Use only interface kits supplied or approved by APC by Schneider Electric. Any other serial interface cable will be incompatible with UPS connector.</p>
	<p>The UPS is equipped with surge protected Network In and Network Out connectors.</p>
	<p>Emergency Power Off (EPO) terminal allows user to connect UPS to central EPO system.</p>
	<p>Cover for output hardwire terminal block.</p>
	<p>IEC320-C20 16 A current receptacles</p>
	<p>External battery pack connector</p>

Installation

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

⚠ CAUTION

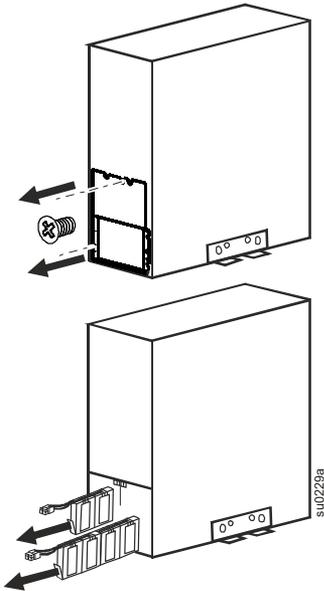
RISK OF FALLING EQUIPMENT

- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- Use the battery module handle to carefully slide the battery modules in or out of the XLBP.
- Remove the battery modules before installing the UPS.
- Always install the XLBP at the bottom of the rack.
- Always install the XLBP below the UPS in the rack.
- Connect all battery strings.

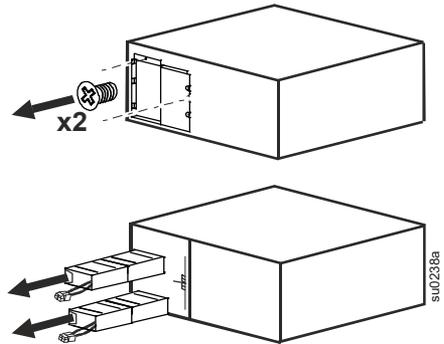
Failure to follow these instructions can result in minor or moderate injury and equipment damage.

Refer to Physical Specifications in this manual and the Safety Guide before installing units.

Remove screws securing battery compartment door.
To remove door, slide door up.



Remove screws securing battery compartment door.
To remove door from UPS, slide door to the right.



Output Hardwire Instructions

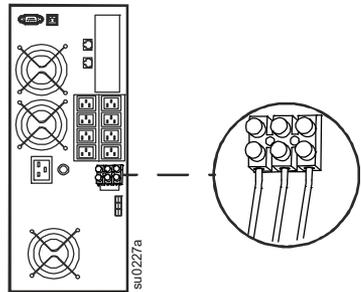
⚠ CAUTION

RISK OF ELECTRIC SHOCK

- Adhere to all national and local electrical codes.
- All electrical work must be performed by a qualified electrician.
- Disconnect the mains input circuit breaker before installing or servicing the UPS or connected equipment. Switch the external circuit breaker off. Practice lockout/tagout procedures.
- Disconnect internal and external batteries before installing or servicing the UPS or connected equipment.
- The UPS contains internal and external batteries that may present a shock hazard even when disconnected from the mains.
- Always connect the UPS to a grounded outlet.
- Do not wear jewelry when working with electrical equipment.
- Select wire size and connectors according to national and local codes.

Failure to follow these instructions can result in minor or moderate injury or damage to equipment.

- Use 1.5 mm² (#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*.



Tower Configuration

⚠ CAUTION

RISK OF FALLING EQUIPMENT

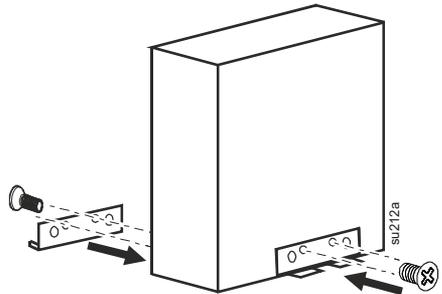
- The Smart-UPS is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Ensure that the stabilizer brackets are installed when the Easy-UPS is installed in the tower orientation.

Failure to follow these instructions can result in minor or moderate injury and equipment damage.

Install stabilizer brackets

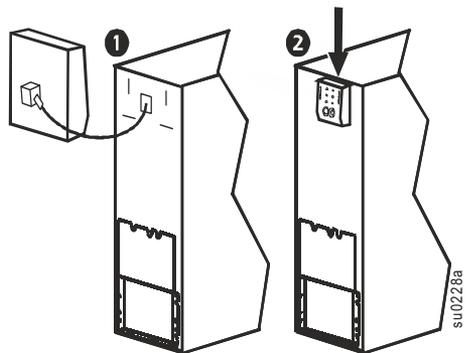
1. Stabilizer brackets must be installed on tower units.
2. Each bracket must be secured with two flat head screws (supplied).

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.



Install display panel

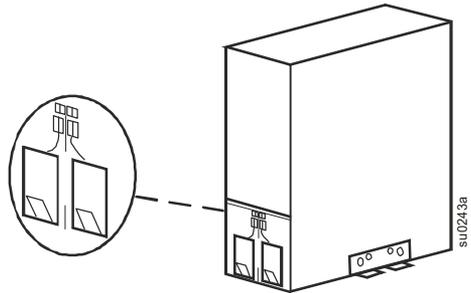
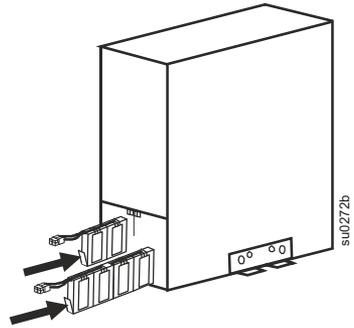
Locate UPS display panel in UPS packaging.



Install and connect batteries

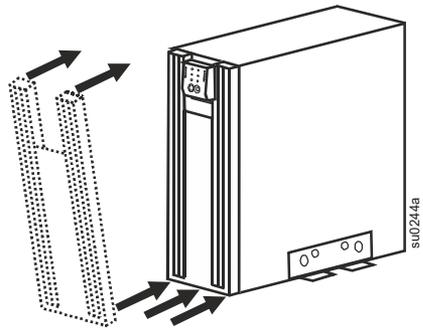
This unit is equipped with battery modules. Each module must be connected to battery connectors on the chassis.

1. Install batteries.
2. Connect batteries.
3. Replace battery compartment door and secure door with screws previously removed.



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.



2-Post Rack-Mount Configuration

⚠ CAUTION

RISK OF FALLING EQUIPMENT

- The equipment is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.
- Always use the recommended number of screws to secure brackets to the Smart-UPS.
- Always use the recommended number of screws to secure the Smart-UPS to the rack.
- Always install the Smart-UPS at the bottom of the rack.
- Always install the XLBP below the UPS in the rack.

Failure to follow these instructions can result in minor or moderate injury.

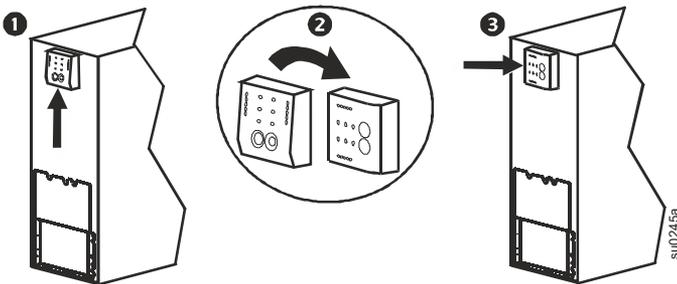
This UPS is intended for installation in a 19", two-post or four-post rack.

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.

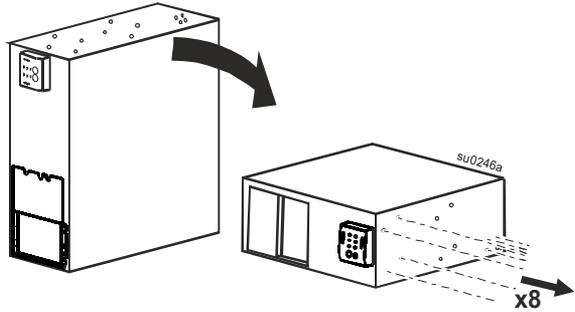
Remove and rotate display panel

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.



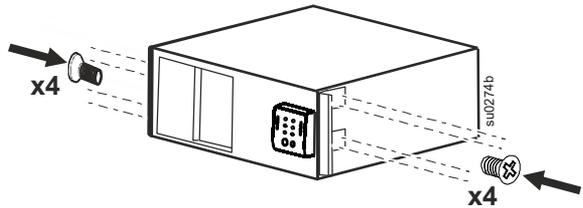
Position UPS for mounting in rack

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.

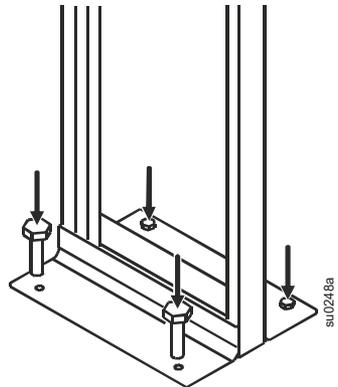


Install rack-mount brackets

Four pan head screws (supplied), must be used to secure each rack-mount bracket to UPS.



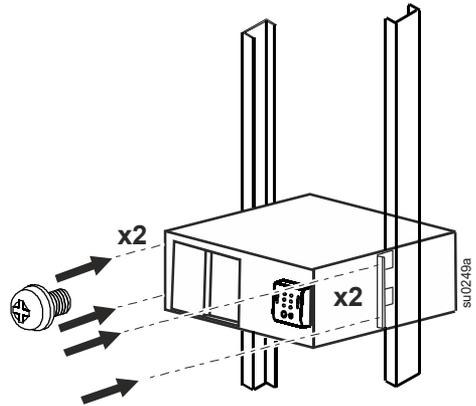
Secure 2-post rack to floor



Install UPS in rack

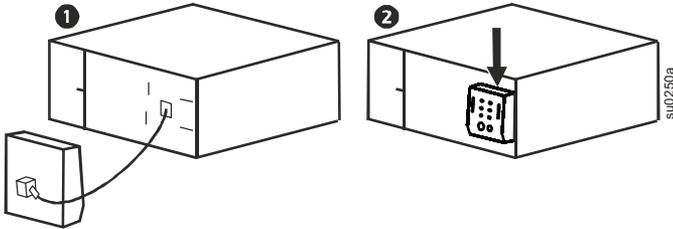
The UPS and XLBPs should be installed at or near bottom of rack. Always place UPS above XLBPs. Batteries must be removed from units prior to installation in a rack.

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



Install display panel

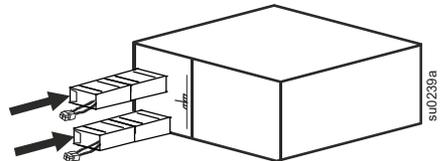
1. Locate UPS display panel in UPS packaging.
2. Install display panel as shown in diagram.



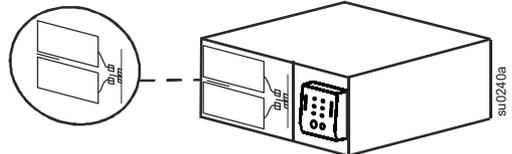
Connect internal batteries

This unit is equipped with internal battery modules. Each module must be connected to battery connectors on chassis.

1. Install batteries.



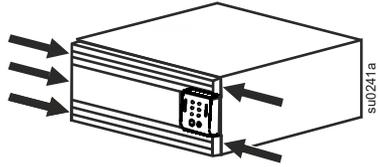
2. Connect batteries.



3. Replace battery compartment door and secure door with screws previously removed.

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.



PowerChute™ Business Edition Software

Overview

Use PowerChute Business Edition software to configure the UPS settings, protect your computer and other equipment during a utility power outage. During a power outage, PowerChute will save any open files on your computer and shut it down. When utility power is restored, it will restart the computer.

Note: PowerChute is only compatible with a Windows operating system. If you are using Mac OSX, use the native shutdown feature to protect your system. See the documentation provided with your computer.

Installation

Use the supplied Serial cable to connect the Serial port on the rear panel of the UPS to the USB port on your computer.

On the computer, go to www.apc.com/tools/download.

Select “**Software Upgrades - PowerChute Business Edition**” in the “**Filter by Software/Firmware**” drop down menu. Select the appropriate operating system. Follow directions to download the software.

Start-Up

Connect Equipment and External Battery Packs to UPS

CAUTION

HAZARD OF ELECTRIC SHOCK

- All electrical work must be performed by a qualified electrician.
- Turn off all power to this equipment before working on the equipment. Practice lockout/tagout procedures.
- Do not wear jewelry when working with electrical equipment.
- Be sure that the Smart-UPS is NOT connected to the utility power and to the battery power when connecting the grounding wire.

Failure to follow these instructions can result in moderate injury.

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 by Schneider Electric Web site, www.apc.com for information. Refer to the user manual for the external battery pack for installation instructions.
3. Plug UPS into a two-pole, three-wire, grounded receptacle.
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

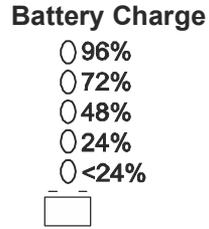
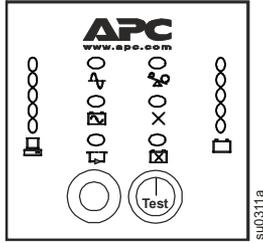
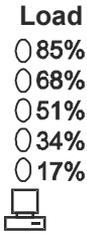
When UPS utilizes only an internal battery, the internal battery charges to 90% capacity during the first four hours of normal operation. Do not expect full battery run capability during this initial charge period. Allow adequate time for batteries to charge prior to turning on the UPS.

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

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

Operation

Front Panel Function Buttons and Indicators



UPS function buttons

Button	Function
	<p>This button has three functions.</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>Manual: Press and hold Test button for a few seconds to initiate self-test.</p>
	<p>This button is used to switch UPS off.</p>

UPS indicators

Indicator	Description
<p>On Line</p> 	<p>The On Line LED illuminates when UPS is drawing utility power and performing double conversion to supply power to connected equipment.</p>
<p>On Battery</p> 	<p>The UPS is supplying battery power to connected equipment.</p>
<p>Bypass</p> 	<p>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. See “Troubleshooting” on page 22 for details.</p> <p>Battery operation is not available while UPS is in bypass mode.</p>

Indicator	Description
Fault 	The UPS detects an internal fault. See “Troubleshooting” on page 22 for details.
Overload 	An overload condition exists. See “Troubleshooting” on page 22 for details.
Battery Fault 	The battery is disconnected or must be replaced. See “Troubleshooting” on page 22 for details.
230V  266  248  229  210  192 	<p>The UPS has a diagnostic feature that indicates utility voltage.</p> <p>The UPS starts a self-test as part of this procedure. The self-test does not affect voltage display.</p> <p>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.</p> <p>Refer to diagram for voltage reading.</p> <p>Values are not listed on the UPS.</p> <p>Indicator on UPS shows voltage is between displayed value on list and the next higher value, See “Troubleshooting” on page 22 for details.</p>

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	<ul style="list-style-type: none"> • 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.

Function	Factory Default	User Selectable Choices	Description
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	<ul style="list-style-type: none"> • 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 alert 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	<p>The low-battery alert beeps are continuous when two minutes of run time remain.</p> <p>Change low battery alert interval setting to the time that the operating system or system software requires to safely shut down.</p>
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.
Output voltage			
230 V models	230 Vac	200, 208, 220, 230, 240 Vac	Allows user to select output voltage while on-line.
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.

Function	Factory Default	User Selectable Choices	Description
Number of battery strings	1	Number of connected battery strings	Defines number of connected battery strings for proper run time prediction.
		SRC2000 models	Default setting of 1=432 VAh, 96 V x 4.5 Ah Refer to XLBP user manual for details on configuring UPS and number of battery strings.
		SRC3000 models	Default setting of 1=691 VAh, 96 V x 7.2 Ah Refer to XLBP user manual for details on configuring UPS and number of battery strings.

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.

NOTICE

RISK OF EQUIPMENT DAMAGE

Do not connect the EPO interface to any circuit other than an unused circuit.

Failure to follow these instructions can result in equipment damage.

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 external battery pack user manual for installation instructions.

Troubleshooting

Use the table below to solve minor installation and operation problems. Refer to the APC by Schneider Electric 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 has detected 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.

Problem and/or Possible Cause	Solution
The Bypass and Overload LEDs are illuminated and the UPS emits a sustained alarm tone	
The UPS is overloaded.	<p>Connected equipment exceeds specified “maximum load” as defined in <i>Specifications</i> on APC by Schneider Electric Web site, www.apc.com. The alarm remains on until overload is removed. Disconnect nonessential equipment from UPS to eliminate overload condition.</p> <p>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.</p>
Fault LED is illuminated	
The UPS has detected an internal fault.	Do Not attempt to use UPS. Turn UPS off and have it serviced immediately. Refer to APC by Schneider Electric Web site, www.apc.com .
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 by Schneider Electric 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.

Problem and/or Possible Cause	Solution
Input circuit breaker trips	
The connected equipment exceeds the specified “maximum load” as defined in <i>Specifications</i> on the APC by Schneider Electric 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.	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” on page 17 for details). 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.

Maintenance and Transport

Battery Replacement

CAUTION

RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE

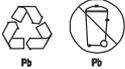
- Replace the battery at least every 5 years.
- Replace the battery immediately when the Smart-UPS indicates battery replacement is necessary.
- Replace battery at the end of its service life.
- Replace batteries with the same number and type of batteries as originally installed in the equipment.
- Replace the battery immediately when there is evidence of electrolyte leakage. Do not operate the Smart-UPS until the batteries have been replaced.

Failure to follow these instructions could result in minor or moderate injury and equipment damage.

This UPS has a swappable battery module.

Note: Once the batteries have been disconnected the connected equipment is not protected from power outages.

Refer to the appropriate replacement battery user manual for battery installation instructions. Contact your dealer or go the APC by Schneider Electric Web site, www.apc.com for information on replacement batteries.



Be sure to deliver the spent battery(s) to a recycling facility or ship it to APC in the replacement battery packing material.

Service

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

1. Review the problems discussed in the Troubleshooting section of this manual to eliminate common problems.

2. If the problem persists, contact APC by Schneider Electric Customer Support through the APC by Schneider Electric Web site, www.apc.com.
 - Note the model number of the UPS, the serial number located on the back of the unit, and the date purchased.
 - Call APC by Schneider Electric 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 Service Request Number.
 - If the UPS is under warranty, repairs are free.

An Authorised Service Representative will visit your location and try to resolve the issue.

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