

The APC logo consists of the letters 'APC' in a bold, sans-serif font. A horizontal line is positioned directly beneath the letters.

by **Schneider** Electric

User Manual

Smart-UPSTM **Uninterruptible Power Supply**

SUA5000 VA
208/230 Vac

SUA3000 VA
200 Vac

Rack Mount 5U

Important Safety Instructions

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

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin 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 either 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**.

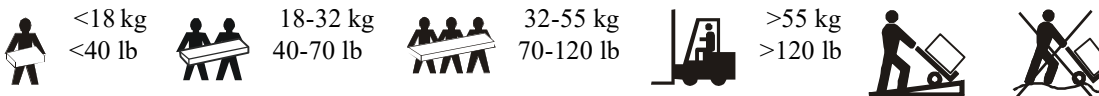
CAUTION

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



Safety and General Information

- Adhere to all national and local electrical codes.
- All wiring must be performed by a qualified electrician.
- Changes and modifications to this unit not expressly approved by APC by Schneider Electric could void the warranty.
- This UPS is intended for indoor use only.

De-energizing safety

- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Do not operate the UPS near open windows or doors.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.
Note: Allow 20 cm clearance on all sides of the 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 equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- The battery typically lasts for two to three years. environmental factors impact battery life. Elevated ambient temperatures, poor quality AC power, and frequent short duration discharges will shorten battery life.

Additional safety information can be found in the Safety Guide supplied with this unit.

De-energizing safety

The UPS contains internal batteries and may present a shock hazard even when disconnected from AC and DC power.

The AC and DC output connectors may be energized by remote or automatic control at any time.

Before installing or servicing the equipment check that the:

- Mains circuit breaker is in the OFF position
- Internal UPS batteries are removed
- XLBP battery modules are disconnected

Electrical safety

- For models with a hardwired input, the connection to the branch circuit (mains) must be performed by a qualified electrician.
- 230 V models only: In order to maintain compliance with the EMC directive for products sold in Europe, output cords attached to the UPS must not exceed 10 meters in length.
- The protective earth conductor for the UPS carries the leakage current from the load devices (computer equipment). An insulated ground conductor is to be installed as part of the branch circuit that supplies input power to the UPS. The conductor must have the same size and insulation material as the grounded and ungrounded branch circuit supply conductors. The conductor will typically be green and with or without a yellow stripe.
- The UPS input ground conductor must be properly bonded to protective earth at the service panel. If the UPS input power is supplied by a separately derived system, the ground conductor must be properly bonded at the supply transformer or motor generator set.

Battery safety

CAUTION

RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE

- Replace the battery at least every 5 years or at the end of its service life, whichever is earlier.
- Replace the battery immediately when the UPS indicates battery replacement is necessary.
- Replace batteries with the same number and type of batteries as originally installed in the equipment.
- Replace the battery immediately when the UPS indicates a battery overtemperature condition, or when there is evidence of electrolyte leakage. Power off the UPS, unplug it from the AC input, and disconnect the batteries. Do not operate the UPS until the batteries have been replaced.
- *Replace all battery modules (including the modules in External Battery Packs) which are older than one year, when installing additional battery packs or replacing the battery module(s).

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

*Contact APC by Schneider Electric Worldwide Customer Support to determine the age of the installed battery modules.

- Batteries typically last for two to three 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.
- Schneider Electric uses Maintenance-Free sealed Lead Acid batteries. Under normal use and handling, there is no contact with the internal components of the battery. 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.
- CAUTION: Before installing or replacing batteries, remove jewelry such as wristwatches and rings. High energy through conductive materials could cause severe burns.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- CAUTION – Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.
- CAUTION – A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:
 - Disconnect the charging source prior to connecting or disconnecting battery terminals.
 - Do not wear any metal objects including watches and rings.
 - Do not lay tools or metal parts on top of batteries.
 - Use tools 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.

General information

- **CAUTION:** Do not dispose of batteries in a fire. The batteries may explode.
- **CAUTION:** Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.

General information

- Always recycle used batteries.
- Recycle the package materials or save them for reuse.
- Select a location sturdy enough for the combined weight of the units.
- Operate the UPS within the specified environmental limits.
- Be sure to deliver the used battery to a recycling facility or ship it to APC by Schneider Electric in the replacement battery packing material.

Radio frequency warning

WARNING: This is a category C2 UPS product. In a residential environment, this product may cause radio interference, in which case the user may be required to take additional measures.

NOTE: 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 users will be required to correct the interference at their own expense.

Introduction

About this UPS

The APC™ by Schneider Electric Uninterruptible Power Supply (UPS) provides protection for electronic equipment from utility power blackouts, brownouts, sags and surges. The UPS filters small utility line fluctuations and isolates electronic equipment from large disturbances by internally disconnecting from utility line power. The UPS provides continuous power from the internal battery until utility power returns to specified levels or the battery is fully discharged.

Unpack

Read the Safety Guide before installing the UPS.






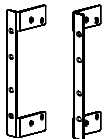
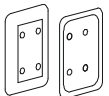
Inspect the UPS upon receipt. Notify the carrier and dealer if there is damage.

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


The UPS and the battery modules are heavy. Remove the battery modules to lighten the UPS during installation. Refer to battery removal instructions on the packaging.

Check the package contents:

- UPS
- Front bezel
- Display bezel
- Top covers (2) and one screw (tower configuration)
- EPO connector
- Serial cable
- Eight ornamental screws for securing the unit in the rack
- Four cage nuts
- Two rack-mount brackets used as stabilizers in tower configuration
- Eight pan head locking screws
- Two rail cleats
- Eight pan head screws
- Literature kit containing:
 - Product documentation
 - Documentation CD
 - Network Management Utility CD
 - Safety information
 - Warranty information
- Additional contents for 230 V models:
 - IEC power connector
 - IEC jumper cables

Hardware		
8		Pan head screws for securing rail cleats to UPS
8		Pan head locking screws for securing rack-mount brackets/stabilizer brackets to the UPS
1		Pan head locking screw (black) for securing top covers to UPS
8		Ornamental screws for securing UPS to rack
4		Cage nuts for rack installation
2		Rack-mount brackets for rack-mount configuration Stabilizer brackets for tower configuration
2		Rail cleats

Specifications


Temperature	Operating	32 to 104 °F (0 to 40 °C)	This unit is intended for indoor use only. Select a location sturdy enough to handle the weight. Do not operate the UPS where there is excessive dust or the temperature or humidity are outside the specified limits. Environmental factors impact battery life. High temperatures, poor utility power, and frequent, short duration discharges will shorten battery life.
	Storage	5 to 86 °F (-15 to 30 °C) charge the UPS battery every six months 86 to 113 °F (30 to 45 °C) charge the UPS battery every three months	
Maximum Elevation	Operating	6562 ft (2,000 m)	
	Storage	50,000 ft (15,240 m)	
Humidity		0 to 95% relative humidity, non condensing	
Pollution Degree		2	
International Protection Code		IP20	
Overvoltage Category		II	
Applicable Power Grid Distribution System		TN Power System	
Applicable Standard		IEC 62040-1	
Weight		215 lbs (98 kg) with battery module	215 lbs (98 kg) 
		107 lbs (49 kg) without battery module 27 lbs (12 kg) each battery module	

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.

Installation

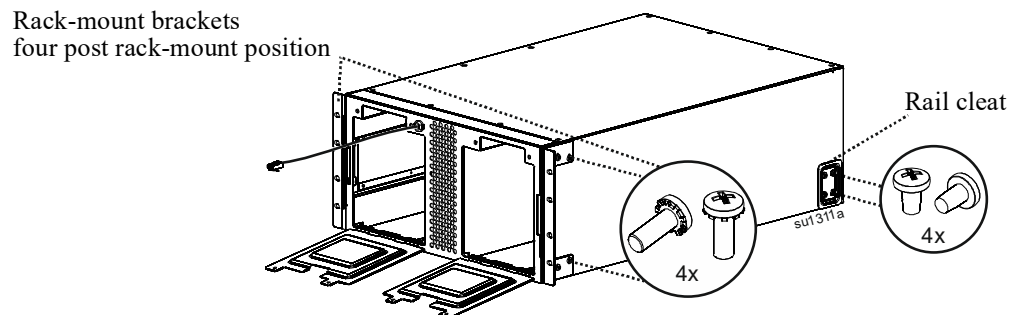
Rack-mount configuration

This unit is intended for mounting in a four post rack. To order a two post rack-mount kit contact your dealer or refer to the APC by Schneider Electric web site, www.apc.com.

	The UPS and the battery modules are heavy. Remove the battery modules to lighten the UPS during installation. Refer to the battery removal instructions on the packaging.
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Install rack-mount brackets and rail cleats

Four screws must be used to secure each rail bracket and rail cleat to the UPS. One rack mount bracket and one rail cleat must be secured to both sides of the UPS.



Install unit in rack

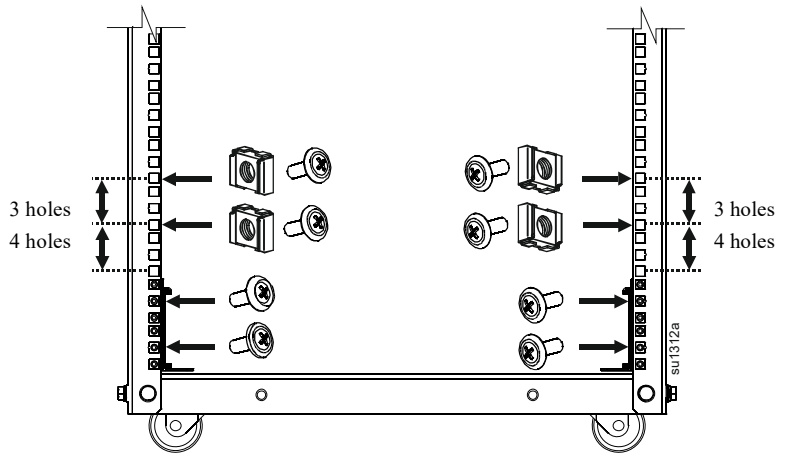
Ensure rack stability prior to installing devices in the rack.

When installing rails in the rack, install two cage nuts above each rail, (see diagram below).

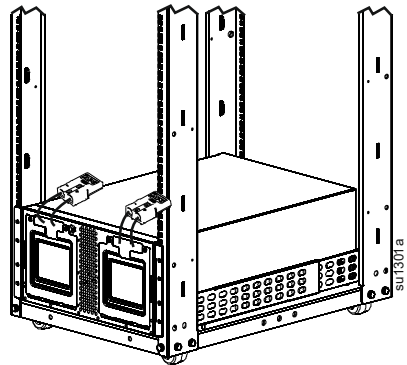
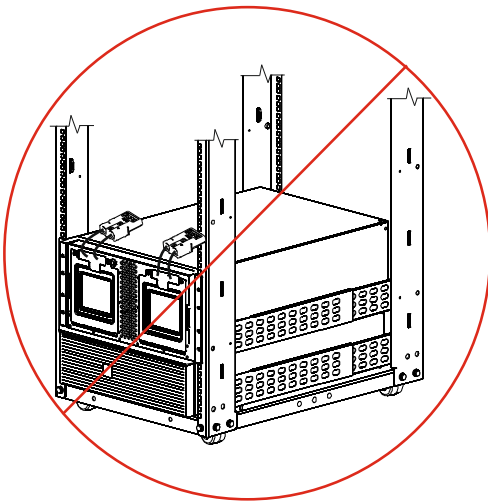
Secure the UPS in the rack using the four cage nuts and eight ornamental screws included in the package.

Second cage nut: count three holes up from first cage nut

First cage nut: count four holes up from top edge of rail



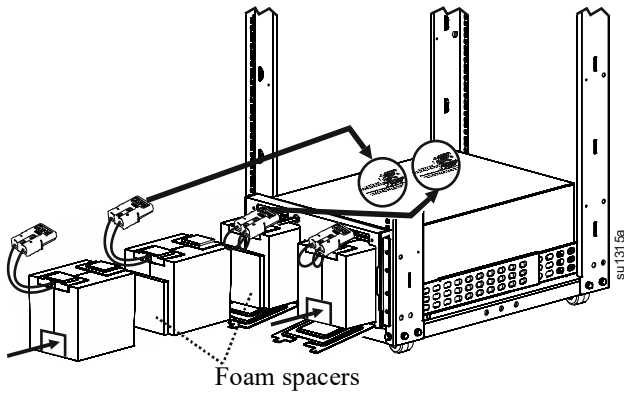
The UPS must be installed at the bottom of the rack.



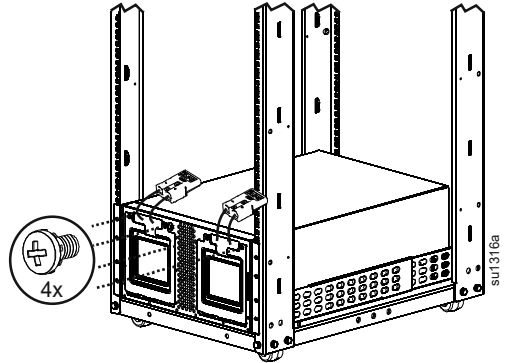
Install batteries



Connect only the first two batteries in the string of three batteries. Be sure that the battery connectors are fully engaged. Do not connect the single battery or the last battery installed in the string of three batteries.



Close and secure battery doors



Rack-mount to tower conversion procedure



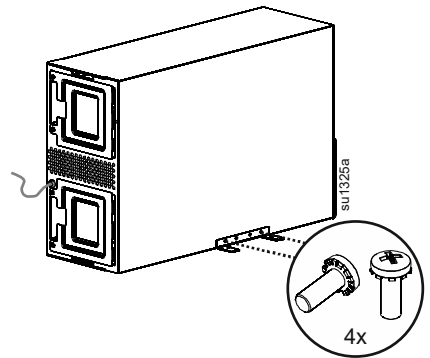
The UPS and the battery modules are heavy. Remove the battery modules to lighten the UPS during installation. Refer to the battery removal instructions on the packaging.

Install stabilizer brackets

Stand the UPS on the side with the embossed marks.

Secure a stabilizer bracket (supplied), to both sides of the UPS.

Secure each bracket with two pan head locking screws (supplied).

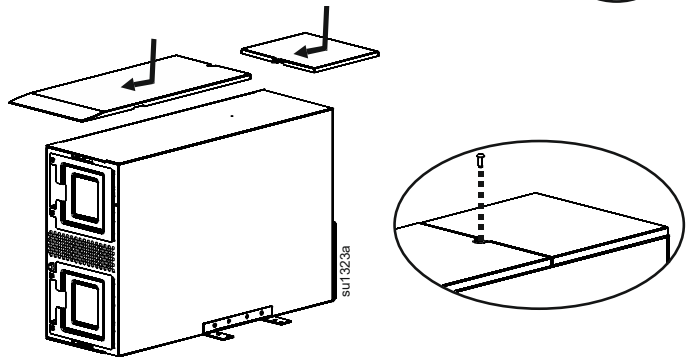


Install two top covers

Install the large top cover by placing it in the slots on the UPS and sliding the cover forward.

Install the small top cover by placing it in the slots on the UPS and sliding the cover forward.

Secure the top covers with a #8 black screw (supplied).

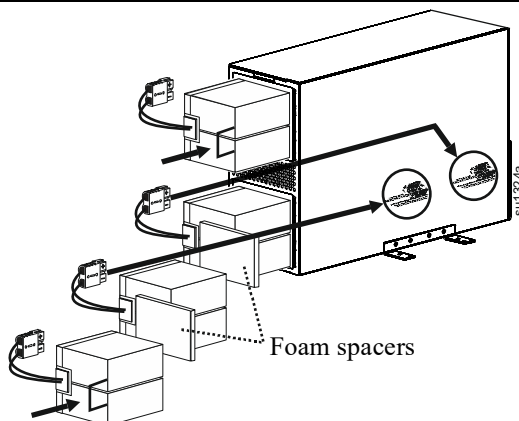


Install batteries

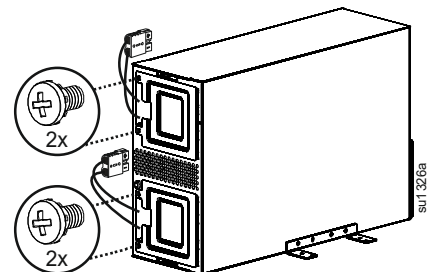


Connect only the first two batteries in the string of three batteries. Be sure that the battery connectors are fully engaged.

Do not connect the single battery or the last battery installed in the string of three batteries.



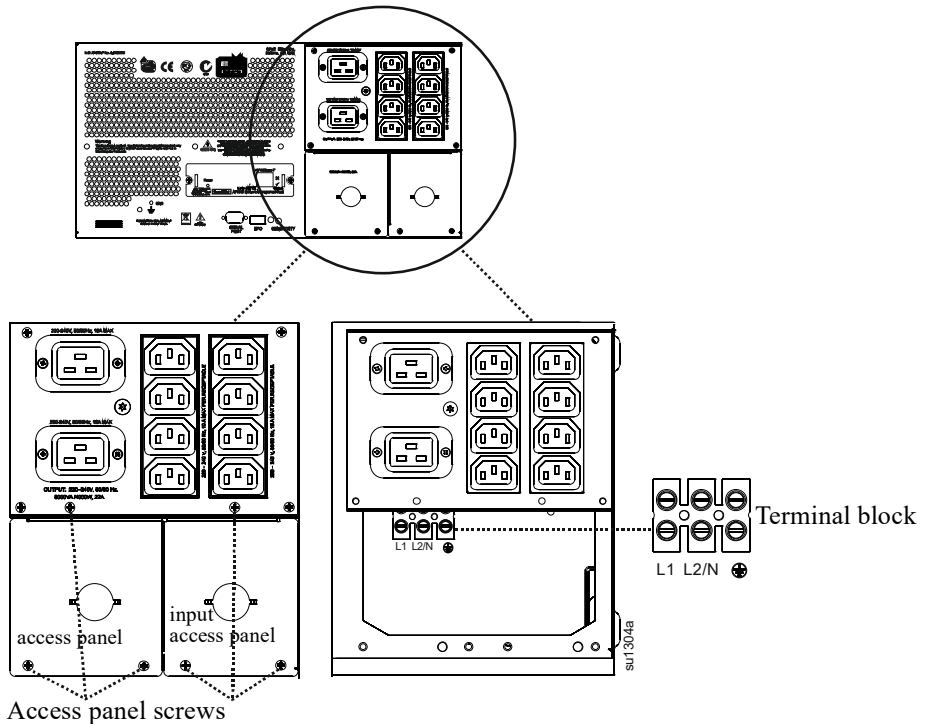
Close and secure the battery doors



Input hardwire 230 V models only

Hardwiring must be performed by a qualified electrician. Adhere to all national and local regulations.

1. Use a dedicated branch circuit with a maximum of 32 A of over-current protection, (either a circuit breaker or fuses).
A lower rated branch may be used depending on the requirements of the UPS load.
Allow an additional 600 W for the UPS during the battery replacement procedure.
2. Switch the circuit breaker OFF prior to connecting equipment and power to the UPS.
3. Remove the access panels located on the rear panel of the UPS.
4. Remove the knockout from the input access panel.
5. Use # 10 AWG (5 mm²).
Strip approximately six inches (152.4 mm) of the outer jacket from the input cable exposing the wires.
Strip .5 inch (12.7 mm) of the individual wire coverings.
6. Route the input cable through the hole in the input access panel. Apply an appropriate strain relief.
7. **Connect the ground wire prior to connecting the line wires.**
8. Replace the access panels and secure each panel with three screws.



Accessories

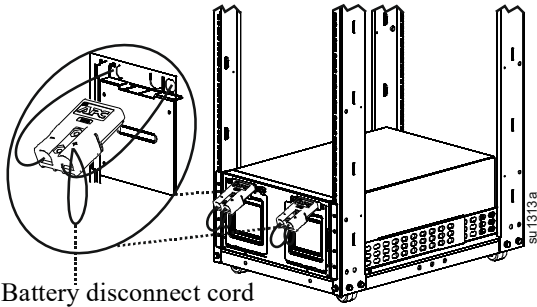
Install accessories prior to connecting power to the UPS.

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

- Input/output hardwire kit
- Two post rack option

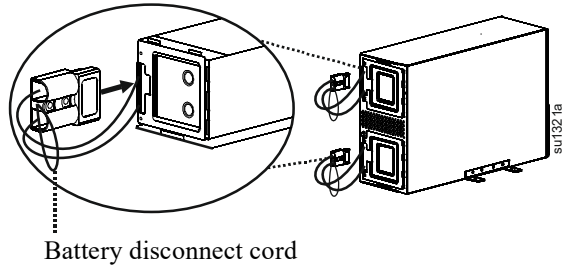
Connect batteries

Rack-mount configuration



Battery disconnect cord

Tower configuration

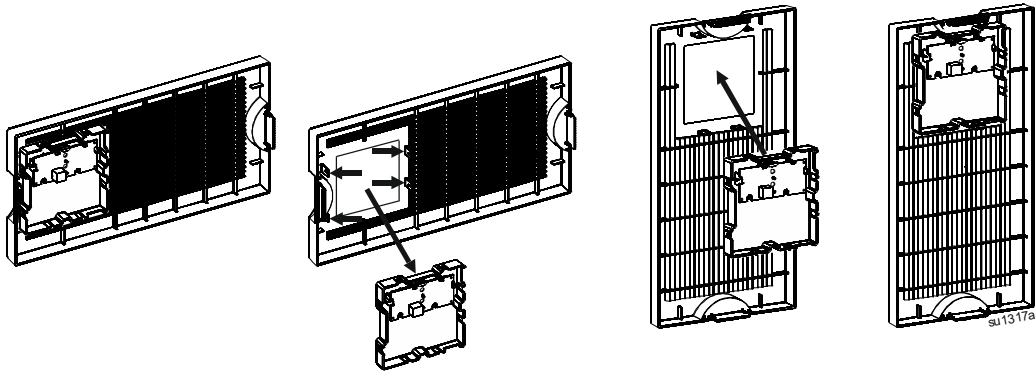


Battery disconnect cord

After all of the batteries have been connected, tuck the battery cables and the battery disconnect cord in the space provided in the battery doors. This will ensure a secure fit of the bezel to the unit.

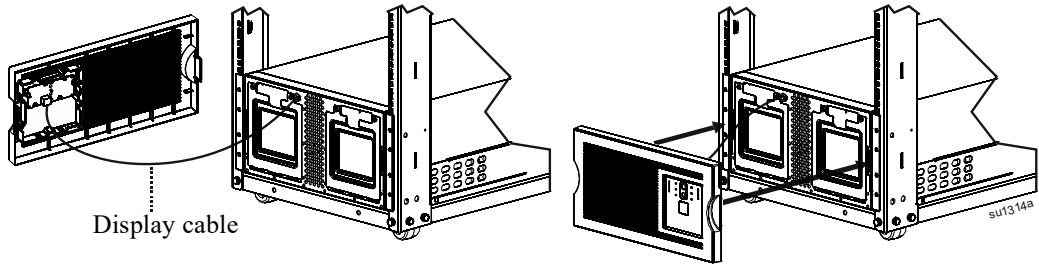
Configure bezel

Snap the display out of the bezel. Rotate the bezel and reinstall the display for a tower configuration.

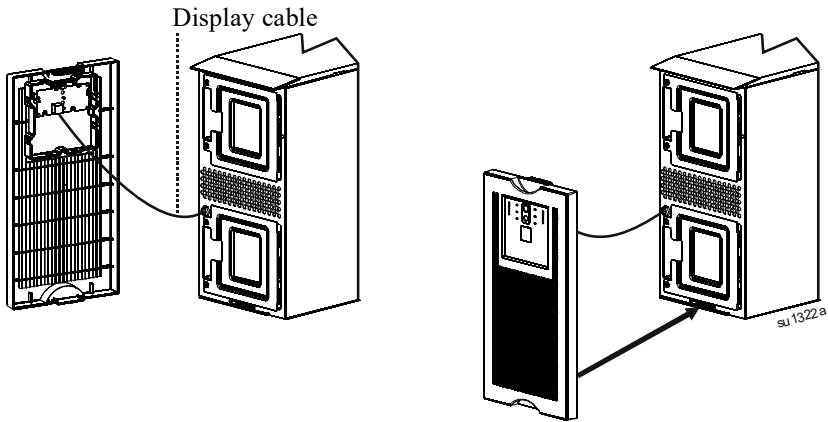


Connect display cable and install bezel

Rack-mount configuration



Tower configuration



Start-up

Connect Equipment and Power to the UPS

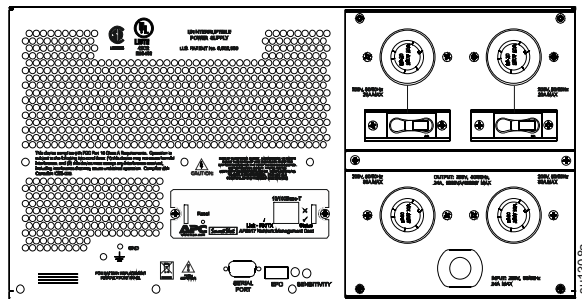
1. The UPS features a chassis ground connection screw located on the rear panel, for connecting the ground leads on transient voltage devices.

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

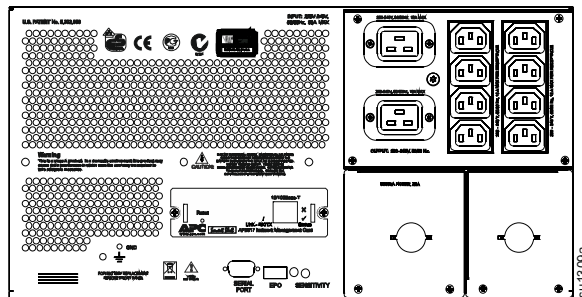
2. Connect equipment to the UPS.
3. **208 V models:** Plug the UPS into a two pole, three wire, grounded receptacle only. Avoid using extension cords.
230 V models: Refer to the *Input Hardwire* section in this manual.
4. To use the UPS as a master on/off switch be sure all connected equipment is switched on.

Rear Panels


208 V models



230 V models



Start the UPS

1. Press the  button on the front panel to start the UPS.
 - The 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.
 - Refer to the APC by Schneider Electric web site, www.apc.com for battery runtimes.
2. For optimal computer system security, install PowerChute Smart-UPS monitoring software.

Communication ports

SERIAL PORT



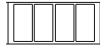
Use only the supplied cable to connect to the serial port. A standard serial interface cable is incompatible with the UPS.

Emergency power off

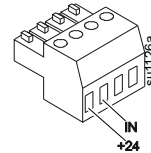
The emergency power off (EPO) feature is user configurable. EPO provides immediate deenergizing of connected equipment from a remote location, without switching to battery operation.

1. Use the EPO connector supplied with the UPS.
2. Use a normally open contact to connect the +24 terminal to the IN terminal. External voltage is not required.
3. Wire the four pin connector to the EPO system.

EPO PORT
(located on rear panel)



**EPO
Connector**



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.

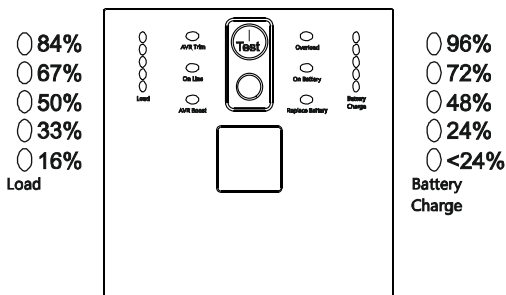
Use one of the following cable types to connect the UPS to the EPO switch.

- 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.

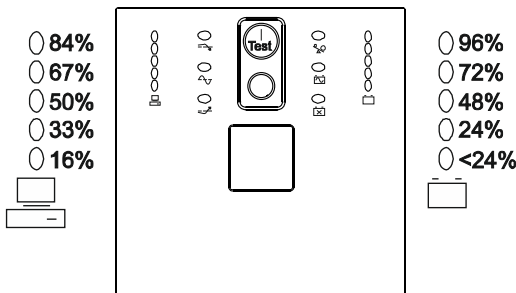
Operation

Display Panels

208 V models








230 V models



Display Panel Indicators and Function Buttons

Indicator LED	Indicator Title	Description
	AVR Trim	The UPS is compensating for a high utility voltage. Refer to the APC by Schneider Electric web site, www.apc.com for AVR settings.
	On Line	The UPS is supplying utility power to the connected equipment, (see <i>Troubleshooting</i> in this manual).
	AVR Boost	The UPS is compensating for a low utility voltage. Refer to the APC by Schneider Electric web site, www.apc.com for AVR settings.
	Overload	The connected equipment is drawing more than the UPS power rating allows, (see <i>Troubleshooting</i> in this manual).
	On Battery	The UPS is supplying battery power to the connected equipment.
	Disconnected Battery/ Replace Battery	The battery is disconnected or must be replaced, (see <i>Troubleshooting</i> in this manual).





Indicator LED	Indicator Title	Description
<p>230 V 208 V</p> <p>0266 0133</p> <p>0248 0123</p> <p>0229 0115</p> <p>0210 0105</p> <p>0191 096</p> <p> Battery Charge</p>	<p>Diagnostic Utility Voltage</p>	<p>The UPS has a diagnostic feature that indicates the utility voltage. The UPS starts a self-test as part of this procedure. The self-test does not affect the voltage display.</p> <p>Press and hold the  button to view the 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 will show the utility input voltage.</p> <p>Refer to the figure on the left for the voltage reading. Values are not listed on the UPS.</p> <p>The indicator on the UPS shows the voltage is between the displayed value on the list and the next higher value, (see <i>Troubleshooting</i> in this manual).</p>






Feature Button	Feature Title	Function
	<p>Power On</p>	<p>Press this button to turn on the UPS. Continue reading for additional capabilities.</p>
	<p>Self-Test</p>	<p>Automatic: The UPS performs a self-test automatically when turned on, and every two weeks thereafter (by default). During the self-test, the UPS briefly operates the connected equipment on battery.</p> <p>Manual: Press and hold the  button for a few seconds to initiate the self-test.</p>
	<p>Cold Start</p>	<p>When there is no utility power and the UPS is off, the cold start feature will switch the UPS and connected equipment onto battery power, (see <i>Troubleshooting</i> in this manual).</p>
	<p>Power Off</p>	<p>Press this button to turn off the UPS.</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 startup and every 14 days (336 hours) there after	<ul style="list-style-type: none"> • On startup and every 7 days (168 hours) there after • On startup and every 14 days (336 hours) there after • On startup only • No self-test 	Set the interval at which the UPS will execute a self-test.
UPS ID	UPS_IDEN	Up to eight characters (alphanumeric)	Uniquely identify the UPS, (i.e. server name or location) for network management purposes.
Date of Last Battery Replacement	Manufacture Date	mm/dd/yy	Reset this date when you replace the battery module.
Minimum Capacity Before Return from Shutdown	0 percent	<ul style="list-style-type: none"> <li style="width: 50%;">• 0% <li style="width: 50%;">• 60% <li style="width: 50%;">• 15% <li style="width: 50%;">• 75% <li style="width: 50%;">• 30% <li style="width: 50%;">• 90% <li style="width: 50%;">• 45% 	Specify the percentage to which batteries will be charged following a low battery shutdown before powering connected equipment.
Voltage Sensitivity The UPS detects and reacts to line voltage distortions by transferring to battery operation to help protect the connected equipment.	High sensitivity 	<ul style="list-style-type: none">  Brightly illuminated: high sensitivity  Dimly illuminated: medium sensitivity  No illumination: low sensitivity 	Adjust by pressing the <i>VOLTAGE SENSITIVITY</i> switch (rear panel). Use a pointed object, (such as a pen) to do so. Note: In situations of poor power quality, the UPS may frequently transfer to battery operation. If the connected equipment can operate normally under such conditions, reduce the sensitivity setting to conserve battery capacity and service life.
Alarm Delay Control	Enable	<ul style="list-style-type: none"> • Enable • Mute • Disable 	Mute ongoing alarms or disable all alarms.
Shutdown Delay	90 seconds	<ul style="list-style-type: none"> <li style="width: 50%;">• 0 s <li style="width: 50%;">• 360 s <li style="width: 50%;">• 90 s <li style="width: 50%;">• 450 s <li style="width: 50%;">• 180 s <li style="width: 50%;">• 540 s <li style="width: 50%;">• 270 s <li style="width: 50%;">• 630 s 	Set the interval between the time when the UPS receives a shutdown command and actual shutdown.

Function	Factory Default	User Selectable Choices	Description
<p>Low Battery Alarm</p> <p>PowerChute software interface provides automatic, unattended shutdown when approximately two minutes of battery operated run time remains.</p>	<p> 2 minutes</p> <p>LED is located on rear panel</p>	<p> <i>Brightly illuminated:</i> low battery alarm level of about 2 minutes</p> <p> <i>Dimly illuminated:</i> low battery alarm level of about 5 minutes</p> <p> <i>No illumination:</i> low battery alarm level is about 8 minutes</p>	<p>The low battery audible alarm beeps are continuous when two minutes of run time remain.</p> <p>To change the default interval setting, use a pointed object such as a pen to press the <i>VOLTAGE SENSITIVITY</i> switch (rear panel), while pressing the  button, (front display).</p> <p>Change the low battery alarm interval setting to the time that the operating system or system software requires to shut down.</p>
Synchronized Turn-on Delay	0 seconds	<ul style="list-style-type: none"> • 0 s • 60 s • 120 s • 180 s • 240 s • 300 s • 360 s • 420 s 	Specify the time the UPS will wait after the return of utility power before start up, (to avoid branch circuit overload).
High Transfer Point	<p><i>208 V models:</i> 225 Vac</p> <p><i>230 V models:</i> 253 Vac</p>	<ul style="list-style-type: none"> • 225 Vac • 229 Vac • 253 Vac • 257 Vac • 233 Vac • 237 Vac • 261 Vac • 265 Vac 	To avoid unnecessary use of the battery where utility voltage is chronically high, set the high transfer point higher if the connected equipment can tolerate this condition.
Low Transfer Point	<p><i>208 V models:</i> 182 Vac</p> <p><i>230 V models:</i> 208 Vac</p>	<ul style="list-style-type: none"> • 182 Vac • 178 Vac • 196 Vac • 200 Vac • 174 Vac • 170 Vac • 204 Vac • 208 Vac 	To avoid unnecessary use of the battery where utility voltage is chronically low, set the low transfer point lower if the connected equipment can tolerate this condition.
Output Voltage 230 V models	230 Vac	<ul style="list-style-type: none"> • 220 Vac • 230 Vac • 240 Vac 	Set the output voltage of the UPS.

Troubleshooting

Use this chart to solve minor UPS installation and operation problems. Refer to 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.
 button not pushed.	Press the  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 the utility power supply to the UPS by plugging in a table lamp. If the light is very dim, have the utility voltage checked.
UPS will not turn off	
The UPS has detected an internal error	Do not attempt to use the UPS. Unplug the UPS and have it serviced immediately.
UPS beeps occasionally	
Normal UPS operation when running on battery.	None: The UPS is helping protect the connected equipment. Press the  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 <i>replace battery</i> LED is not yet illuminated.
All LEDs are illuminated and the UPS emits a constant beeping	
The UPS has detected an internal fault.	Do not attempt to use the UPS. Unplug the UPS and have it serviced immediately.
Front panel LEDs flash sequentially	
The UPS has been shut down remotely through software or an optional accessory card.	None: The 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: The UPS will restart automatically when utility power is restored and the battery has a sufficient charge.
The Overload LED is illuminated and the UPS emits a sustained alarm tone	
The UPS is overloaded.	The connected equipment exceeds the specified “maximum load” as defined in Specifications on the APC by Schneider Electric web site, www.apc.com . The alarm remains on until the overload is removed. Disconnect nonessential equipment from the UPS to eliminate the overload condition. The UPS continues to supply power as long as it is online and the circuit breaker does not trip; the UPS will not provide power from batteries in the event of a utility voltage interruption.
The Disconnected Battery/Replace Battery LED is illuminated	
The <i>Disconnected Battery/Replace Battery</i> 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.

Problem and/or Possible Cause	Solution
Weak battery	Allow the battery to recharge for 24 hours and perform a self-test. If the problem persists after recharging, replace the battery.
Battery does not pass self-test: <i>Replace Battery/Battery Disconnected</i> LED illuminates and the UPS emits short beeps for one minute. The UPS repeats the alarm every five hours.	Allow the 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 the battery does not pass the self-test again, it must be replaced. The connected equipment is unaffected.
The 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 the UPS. Reset the circuit breaker.
The AVR Boost or AVR Trim LEDs are illuminated	
The system is experiencing very high or low utility voltage.	Have qualified service personnel check your facility for electrical problems. If the problem persists, contact the utility company for further assistance.
There is no utility power	
There is no utility power and the UPS is off.	Use the cold start feature to supply power to the connected equipment from the UPS battery(s). Press and hold the  button. There will be a short beep followed by a longer beep. Release the button during the second beep.
UPS operates on battery although line voltage exists	
The UPS input circuit breaker trips.	Unplug all nonessential equipment from the UPS. Reset the circuit breaker.
Your system is experiencing very high, low or distorted line voltage.	Move the UPS to a different outlet on a different circuit: Inexpensive fuel powered generators may distort the voltage. Test the input voltage with the utility voltage display, (see <i>Operation</i> in this manual). If acceptable to the connected equipment, reduce the UPS sensitivity.
Battery Charge and Load LEDs flash simultaneously	
The UPS has shut down. The internal temperature of the UPS has exceeded the allowable threshold for operation.	Check that the room temperature is within the specified limits for operation. Check that the UPS is properly installed, allowing for adequate ventilation. Allow the UPS to cool down. Restart the UPS. If the problem persists, contact APC by Schneider Electric at www.apc.com .
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

Replace battery modules

This UPS has easy to replace, swappable battery modules, isolated from electrical hazards. Leave the UPS in the rack and connected equipment on during the replacement procedure.

Use APC by Schneider Electric RBC55 replacement battery.

Once the batteries are disconnected the connected equipment is not protected from power outages.

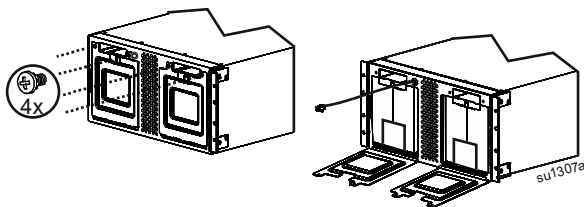
Replacement Battery RBC55 replacement

Refer to the appropriate replacement battery user manual for battery module installation instructions. See your dealer or contact APC by Schneider Electric at www.apc.com for information on replacement battery modules.

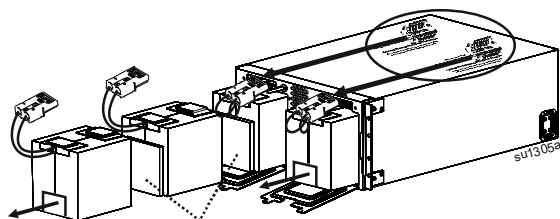


Be sure to deliver the spent battery(s) to a recycling facility or ship it to APC by Schneider Electric in the replacement battery packing material.

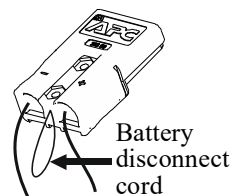
Open battery doors



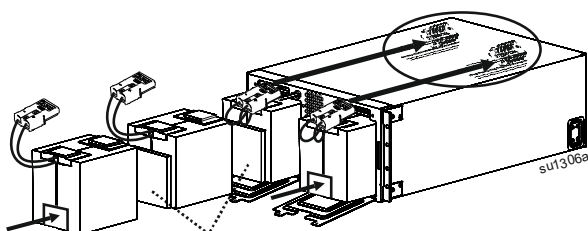
Remove spent batteries from the UPS



Pull the battery disconnect cords attached to the battery connectors. **DO NOT** pull the battery cables to disconnect the batteries.



Install new batteries



Transport

1. Shut down and disconnect all connected equipment.
2. Disconnect the unit from utility power.
3. Disconnect all internal and external batteries (if applicable).
4. Follow the shipping instructions outlined in the *Service* section of this manual.

Service

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

1. Review the *Troubleshooting* section of the 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**.
 - a. Note the model number and serial number and the date of purchase. The model and serial numbers are located on the rear panel of the unit and are available through the LCD display on select models.
 - b. Call Customer Support and a technician will attempt to solve the problem over the phone. If this is not possible, the technician will issue a Returned Material Authorization Number (RMA#).
 - c. If the unit is under warranty, the repairs are free.
 - d. Service procedures and returns may vary internationally. Refer to the APC by Schneider Electric web site, **www.apc.com** for country specific instructions.
3. Pack the unit properly to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under warranty.
 - a. **Note: When shipping within the United States, or to the United States always DISCONNECT ONE UPS BATTERY before shipping in compliance with U.S. Department of Transportation (DOT) and IATA regulations.** The internal batteries may remain in the UPS.
 - b. Batteries may remain connected in the XBP during shipment. Not all units utilize XLBPs.
4. Write the RMA# provided by Customer Support on the outside of the package.
5. Return the unit by insured, prepaid carrier to the address provided by Customer Support.

Limited Warranty

Schneider Electric IT Corporation (SEIT), warrants its products to be free from defects in materials and workmanship for a period of two (2) years from the date of purchase. The SEIT obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. Repair or replacement of a defective product or parts thereof does not extend the original warranty period.

This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase. Products may be registered online at warranty.apc.com.

SEIT 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, testing, operation or use of the product contrary to SEIT recommendations or specifications. Further, SEIT shall not be liable for defects resulting from: 1) unauthorized attempts to repair or modify the product, 2) incorrect or inadequate electrical voltage or connection, 3) inappropriate on site operation conditions, 4) Acts of God, 5) exposure to the elements, or 6) theft. In no event shall SEIT have any liability under this warranty for any product where the serial number has been altered, defaced, or removed.

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Limited Warranty

To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from customer support. Customers with warranty claims issues may access the SEIT worldwide customer support network through the APC web site: www.apc.com. Select your country from the country selection drop down menu. Open the Support tab at the top of the web page to obtain information for customer support in your region. 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.

APC by Schneider Electric Worldwide Customer Support

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

- Visit the APC by Schneider Electric web site, www.apc.com to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC by Schneider Electric web site for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC Knowledge Base and using e-support.
- Contact the APC by Schneider Electric Customer Support Center by telephone or e-mail.
 - Local, country specific centers: go to **www.apc.com/support/contact** for contact information.
 - For information on how to obtain local customer support, contact the APC by Schneider Electric representative or other distributor from whom you purchased your APC by Schneider Electric product.

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