

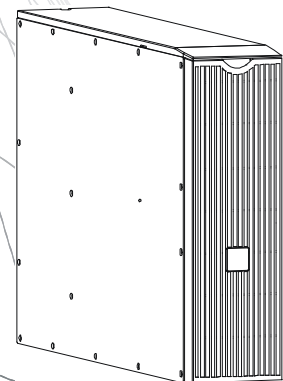


User Manual

Smart-UPS™ On-Line Uninterruptible Power Supply

Isolation Transformer
Models: SURT001 and SURT002

Isolation and Step-Down Transformer
Models: SURT003 and SURT004



General Information

Important Safety Messages

Read the instructions carefully to become familiar with the equipment before attempting to install, operate, service or maintain the UPS. 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.



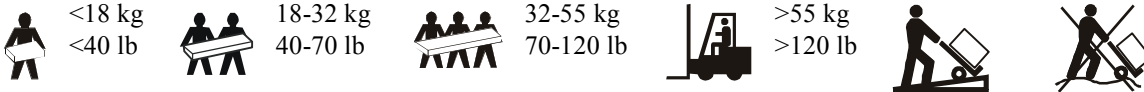
The addition of this symbol to a Danger or Warning product safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



The addition of this symbol to a Warning or Caution product safety label indicates that a hazard exists that can result in injury and product damage if the instructions are not followed.

 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

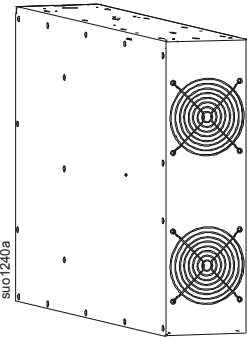
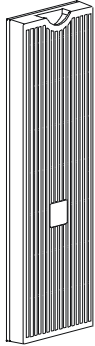
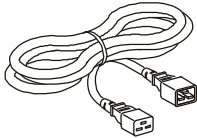
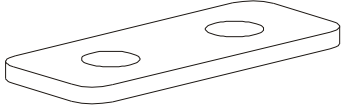
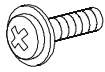
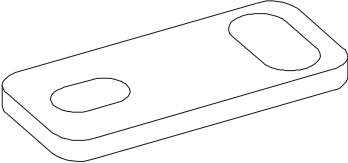

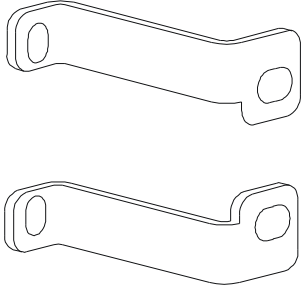
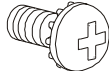
- Adhere to all national and local electrical codes.
- All wiring must be performed by a qualified electrician.
- Changes and modifications to this unit not expressly approved by APC could void the warranty.
- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.
- 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.

General information

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

Package Contents

Inspect the contents upon receipt. Notify the carrier and dealer if the unit is damaged.

<p>Transformer</p> 	<p>Front Bezel</p> 	<p>SURT001: jumper cable</p> 
<p>1 tie bracket to secure the SURT/SRT UPS to the SURT transformer at the top</p>  <p>2 screws to secure tie bracket</p> 	<p>2 tie bracket to secure the SURT UPS to the SURT transformer</p> 	<p>Documentation CD.</p>  <p>Top and bottom tie brackets to secure the SRT3000XLI/SRT3000XLW-IEC UPS with SURT001/SURT002 transformer</p>  <p>3 pan head screws to secure tie brackets with the SRT3000XLI/SRT3000XLW-IEC UPS</p> 

Product Description

The Smart-UPS™ RT transformer is designed for use as an isolation transformer. Models SURT003 and SURT004 also function as a step down transformer.

The tower unit can be placed in a standard 19-inch rack. It should be mounted in the rack above the UPS using a specialized APC by Schneider Electric rail kit. The rail kit, SURTRK2, is sold separately as an accessory. See the APC by Schneider Electric website www.apc.com or contact your APC by Schneider Electric sales representative for additional information.

The UPS and transformer models may vary from the examples depicted in this manual.

Product Overview

Specifications

For additional specifications refer to the APC by Schneider Electric web site, www.apc.com.

Electrical

	SURT001	SURT002	SURT003	SURT004
Nominal Input Voltage (Vac)	220–240		208 or 220-240	200 or 220
Input Voltage Range (Vac)	170–280			
Input Service Maximum Current (Amps)	16	30		
Input Connection	IEC C20	Hardwire (10 AWG)	3 ft. cord with L6-30P	
Line Frequency (Hz)	45–65			
Nominal Output Voltage (Vac)	220–240		220-240/208/ 110/120	200/100 or 220/110
Output Receptacles	IEC C19	Hardwire (10 AWG)	(2) L6-20R (1) L6-30R (1) L14-30R (8) 5-20R T-slot	(1) L6-20R (1) L6-30R (2) L5-20R (8) 5-20R T-slot
Maximum Output Power (VA)	3000	5000	4800	4600
Maximum Output Power (Watt)	3000	5000	4800	4600

Wiring Diagrams

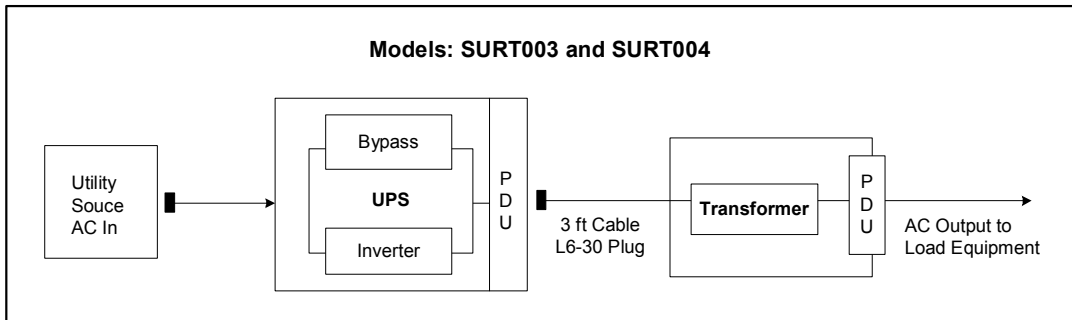
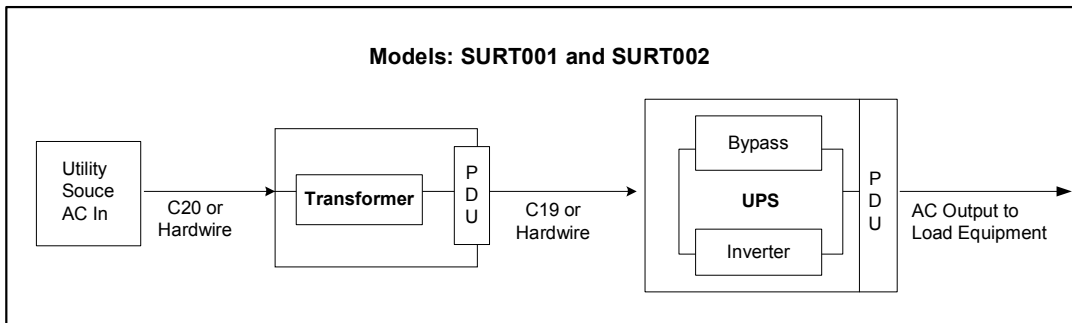
⚠ CAUTION

RISK OF ELECTRIC SHOCK

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

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

Typical System Configuration				
Model	Utility Voltage	UPS Output	Input Voltage Selection Switch Position	Transformer Output Voltage
SURT001	230	230	N/A	230
SURT002	230	230	N/A	230
SURT003	208	208	208	240/208/120
SURT003	240	240	240	240/208/120
SURT003	220	220	240	220//110
SURT004	200	200	N/A	200/100
SURT004	220	220	N/A	220/110



Installation

Tower transformer SRT3000XLI/SRT3000XLW-IEC model

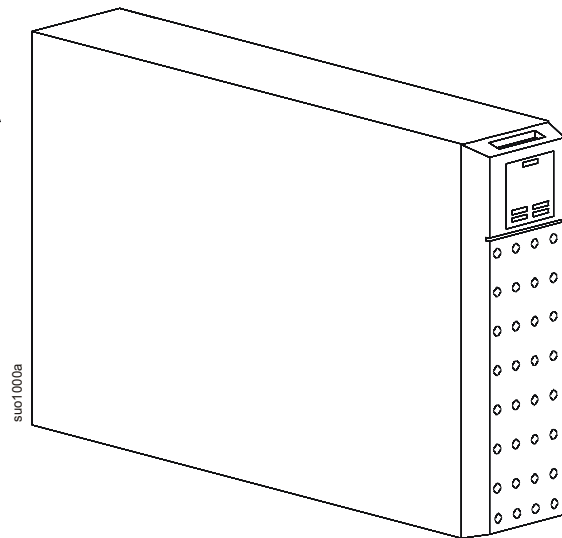
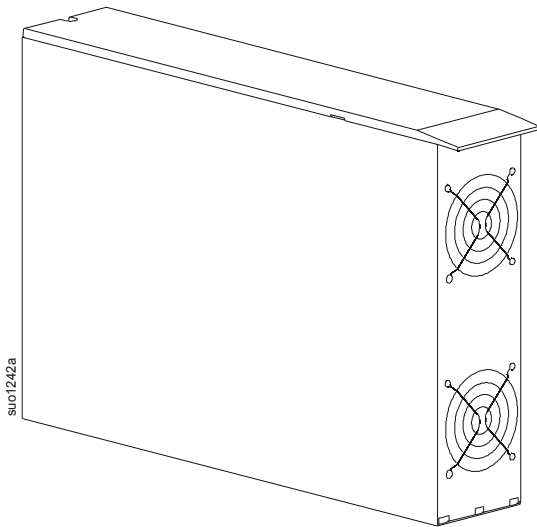
CAUTION

RISK OF FALLING EQUIPMENT

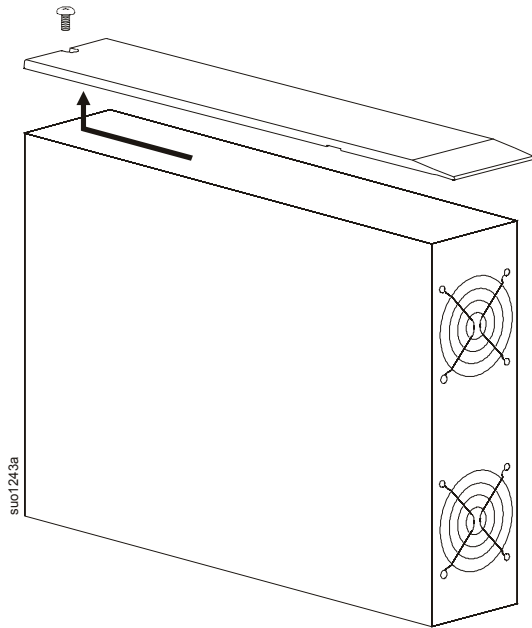
- The equipment is heavy.
- Always practice safe lifting techniques adequate for the weight of the equipment.

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

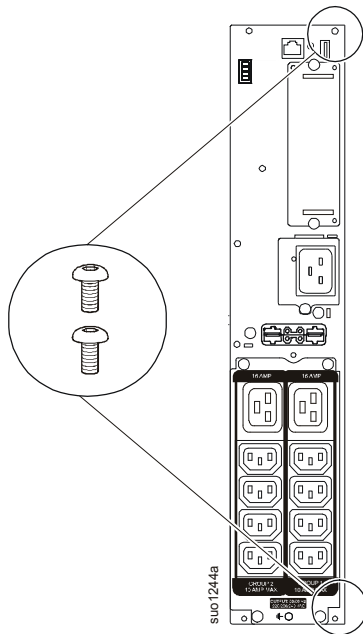
- 1 Place the transformer to the left side of the UPS at the installation location.



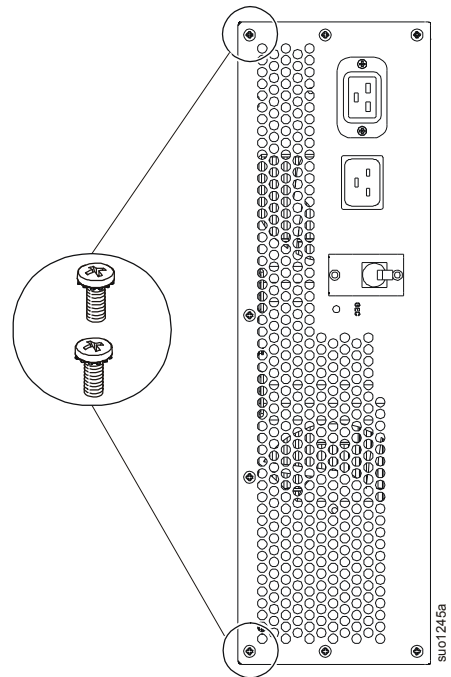
- 2 Remove the top cover from the transformer and discard.



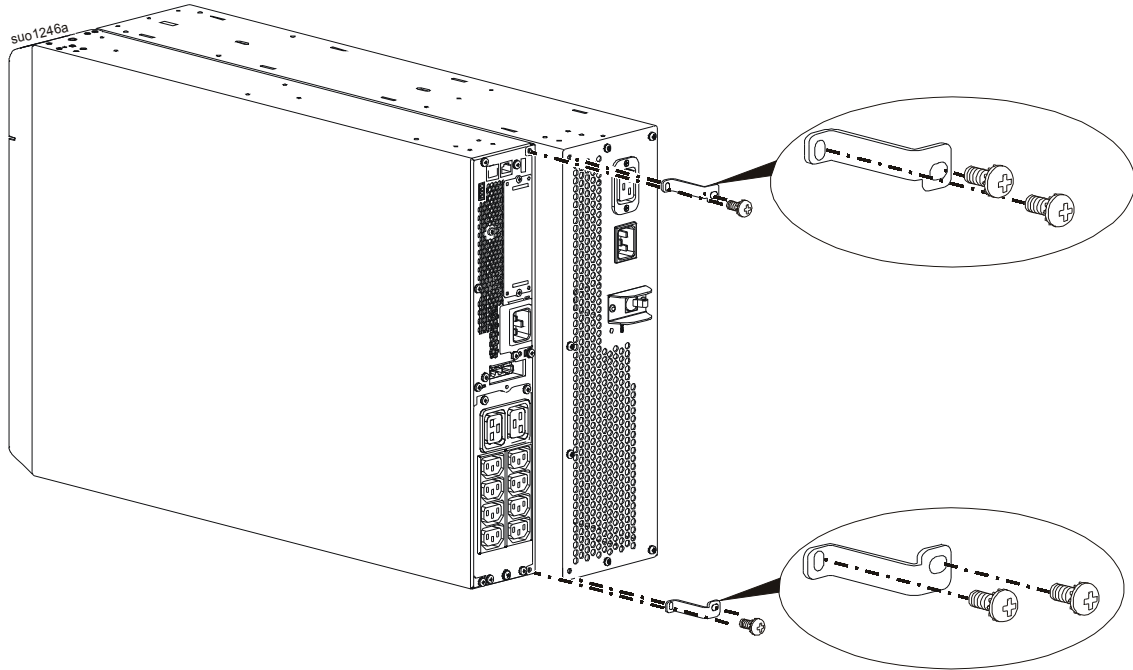
- 3 Remove two screws at the top and bottom of the UPS. Use torx T20 screw driver.



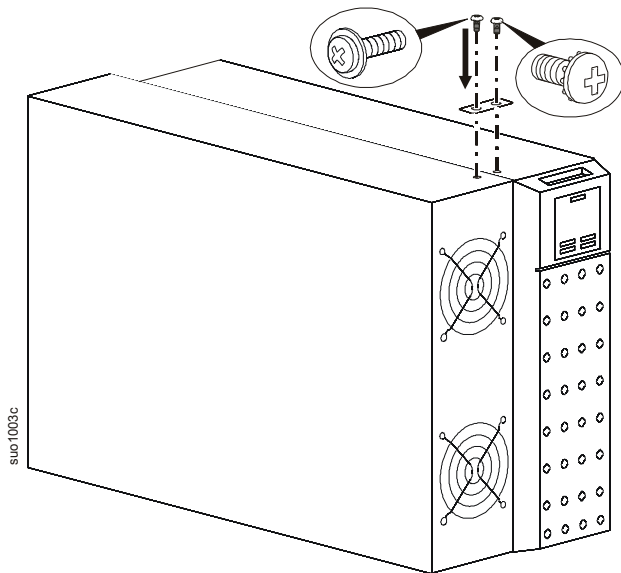
- 4 Remove two screws at the top and bottom of the transformer.



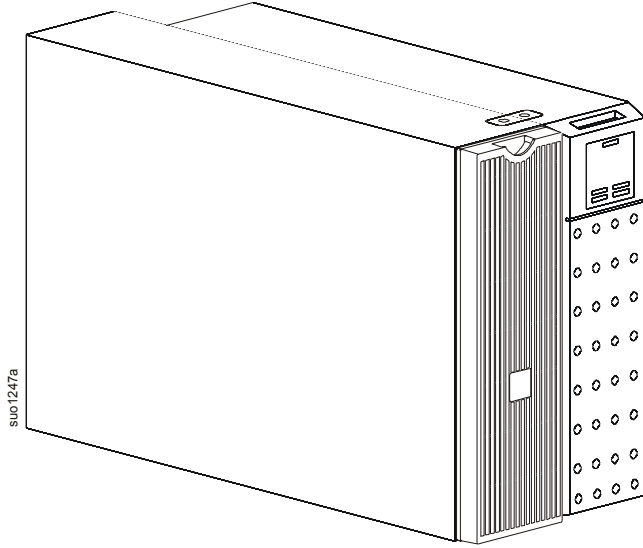
- 5 Reuse one screw removed in 3 (use torx T20 screw driver) and one new pan head screw to secure the tie brackets at the top and bottom of the transformer and UPS. **Note:** Mount the pan head screws to the UPS.



- 6 Install the tie brackets to the transformer and UPS.



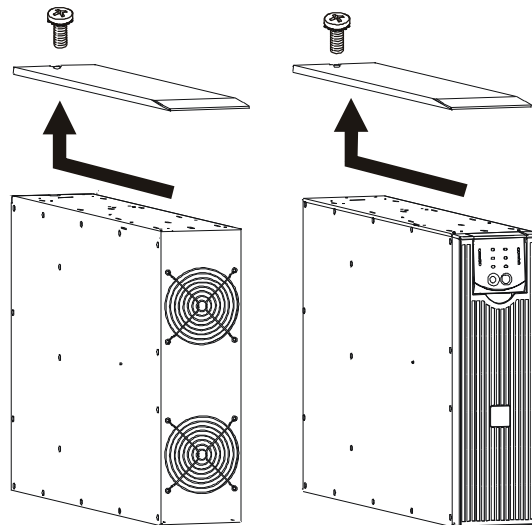
7 Install the front bezel on the transformer.



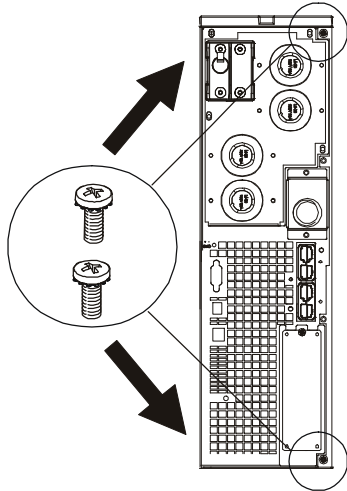
Installing the Tower Transformer to SURT UPS

Follows these instructions when installing the transformer with a new or existing Smart-UPS RT UPS.

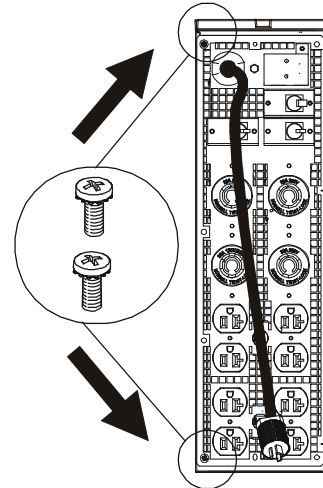
- The transformer must be installed to the LEFT of the UPS when facing the FRONT of the units.
 - If your configuration includes the optional bypass panel, ensure that the bypass panel is installed to the LEFT of the transformer when facing the FRONT of the units. Refer to the bypass panel manual for installation instructions.
 - Secure the transformer to the UPS using the provided tie brackets.
1. Move the transformer to the installation site.
 2. Remove the covers on the transformer ❶ and UPS ❷ as shown.
 3. Remove the 2 screws at the top and bottom of the UPS ❸ and transformer ❹.
 4. Secure the transformer to the UPS.
 - a. Locate the 2 screws and 3 tie brackets from the literature kit.
 - b. Secure the appropriate tie bracket with screws to the top of the units ❺.
 - c. Reuse the screws removed in step 3 to secure tie brackets ❻ at the top and bottom of the units.
 5. Reuse the screws removed in step 2 to secure the covers to the UPS ❼ and transformer ❸.
 6. Install the transformer bezel ❾ to the front of the unit.
 7. See the “Connection and Startup Instructions” on page 11 to complete the installation.
- ❶ Place the transformer to the left side of the UPS at the installation location. Remove the top covers on the transformer and UPS.



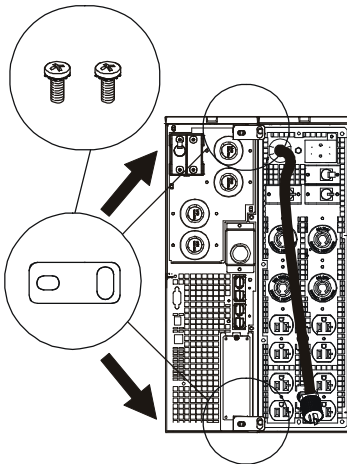
2 Remove two screws at the top and bottom of the UPS.



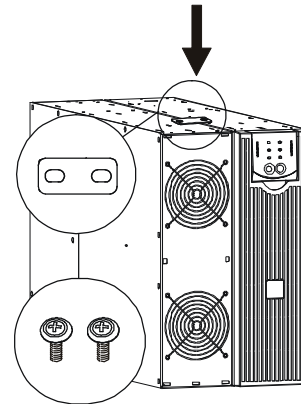
3 Remove two screws at the top and bottom of the transformer.



4 Reuse the screws removed in step 2 and 3 to secure tie brackets at the top and bottom of the units

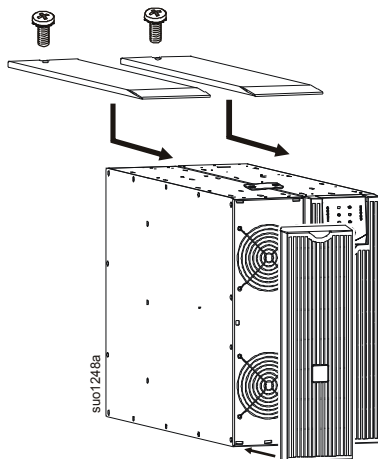


5 Install the tie brackets to the transformer and UPS.



7 Install the transformer bezel.

Install the top brackets to both the UPS and the transformer.



Connection and Startup Instructions

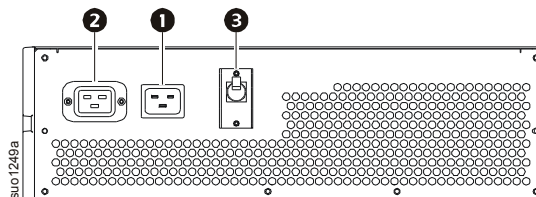
⚠ CAUTION

RISK OF ELECTRIC SHOCK

- Disconnect the mains input circuit breaker before installing or servicing the UPS or transformer or connected equipment.
- 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.
- UPS AC hardwired and pluggable outlets may be energized by remote or automatic control at any time.
- Disconnect equipment from the UPS before servicing any equipment.
- Do not use the UPS as a safety disconnect.

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

Model SURT001



1. Connect the transformer input (C20) connection **1** to the utility source.
2. Connect the UPS to the transformer output (C19) connection **2** using the provided jumper cable.
3. Ensure that the input circuit breaker **3** is turned ON.

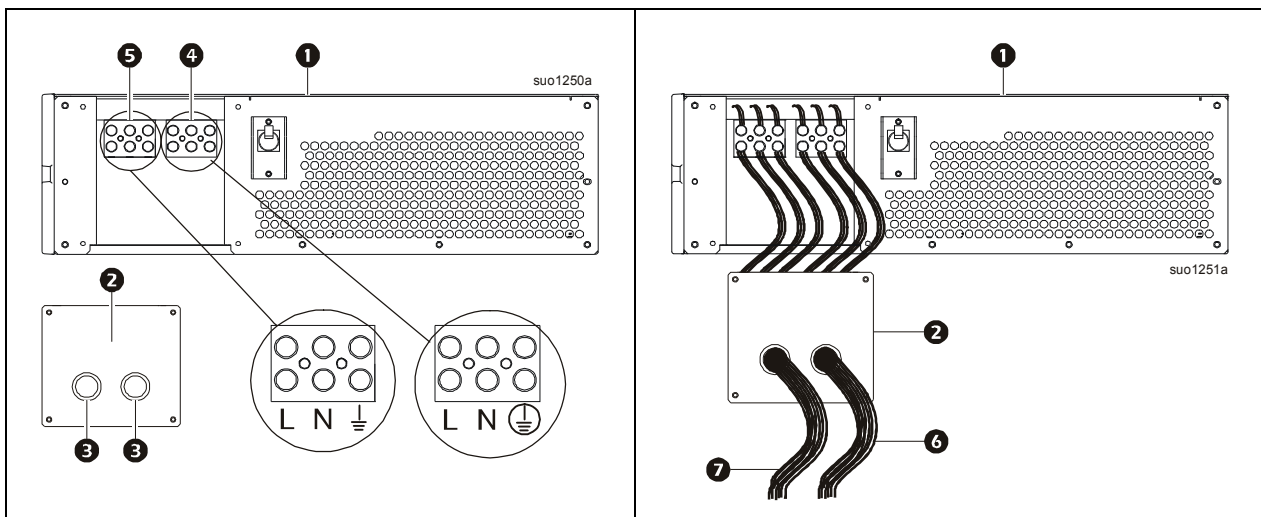
⚠ CAUTION

RISK OF ELECTRIC SHOCK

- Adhere to all national and local electrical codes.
- Wiring must be performed by a qualified electrician.
- Verify that all branch circuit (mains) are deenergized and locked out before installing cables or making connections.
- Use 10 AWG wires.

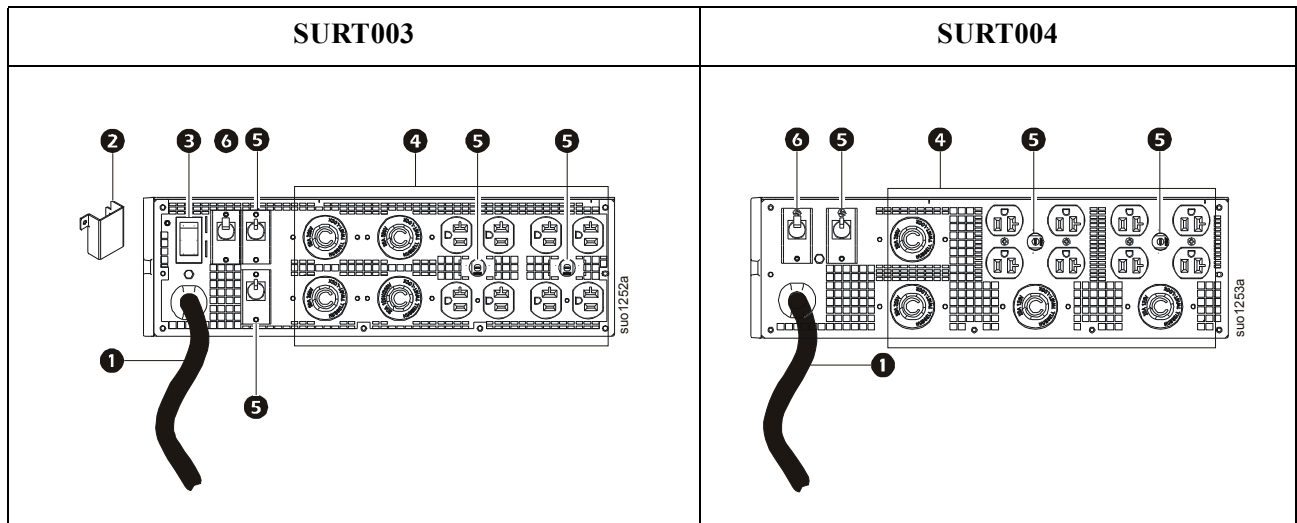
Failure to follow these instructions can result in minor or moderate injury.

1. Turn OFF the utility circuit breaker.
2. Turn OFF the UPS.
3. Ensure that the transformer input circuit breaker **1** is turned OFF.
4. Remove the wiring cover **2** to access the terminal block.
5. Remove circular knockouts **3**.
6. Locate the transformer input **4** and output **5** terminal connections.
 - a. The utility circuit breaker is hardwired to the transformer input connection terminals.
 - b. The UPS is hardwired to the transformer output connection terminals. See the UPS manual for additional information.
7. Feed the input (utility) **6** and output (UPS) **7** cables through the transformer wiring cover **2**.
 - a. Connect the input (utility) cables to the input terminals.
 - b. Connect the output (UPS) cables to the output terminals.
The transformer requires a 230 Vac single-phase input with a minimum branch breaker rating of 25 amps.
 - c. Inspect the connections.
 - d. Secure the wiring cover to the transformer with the provided screws.
8. Turn ON the utility circuit breaker.
9. Turn ON the transformer input circuit breaker **1**.
10. Turn ON the UPS.



Models SURT003 and SURT004

1. Ensure that the transformer input cord **1** is unplugged.
2. For Model SURT003:
 - a. Remove the voltage selection switch cover **2**.
 - b. Set the input voltage selection switch **3** to match the utility voltage of 208 or 240 VAC. See the table on page 4.
 - c. If 240V utility is used, program the UPS output for 240V. See the UPS user manual.
 - d. Install the voltage selection switch cover **2**.
3. Plug applicable load equipment into the PDU receptacles **4** on the transformer.
4. Plug the transformer input cord **1** into the appropriate PDU receptacle on the rear of the UPS.
5. Ensure that the output circuit breakers **5** are ON.
6. Ensure that the input circuit breaker **6** is ON.



Tower to Rack-mount Conversion

This section contains information on how to install a tower transformer in a 19-inch rack.

- The transformer must be installed directly above the UPS in the rack.
 - If your configuration includes the optional bypass panel, ensure that the bypass panel is installed above the transformer in the rack. Refer to the bypass panel manual for installation instructions.
1. Install the transformer directly above the UPS in the rack. Refer to the *Smart-UPS RT Tower to Rack-mount Conversion Guide* and the optional transformer rail kit.
 2. See the “Connection and Startup Instructions,” beginning on page 7 to complete the installation.

Transport

1. Shut down and disconnect all connected equipment.
2. Disconnect the unit from mains 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. 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. For country specific instructions refer to the APC by Schneider Electric web site, **www.apc.com**.
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.

Note: Before shipping, always disconnect battery modules in a UPS or external battery pack. The disconnected internal batteries may remain inside the UPS or external battery pack.
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 Factory 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 part 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 of 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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NOTHING IN THIS LIMITED WARRANTY SHALL SEEK TO EXCLUDE OR LIMIT SEIT LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM ITS NEGLIGENCE OR ITS FRAUDULENT MISREPRESENTATION OF TO THE EXTENT THAT IT CANNOT BE EXCLUDED OR LIMITED BY APPLICABLE LAW.

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 by Schneider Electric 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 to access documents in the APC by Schneider Electric Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC by Schneider Electric web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC by Schneider Electric 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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