

# Easy-UPS On-Line Step Down/Isolation Transformer SRV6-10KTF & SRV6-10KRTF

## Important Safety Instructions

Read the instructions carefully to become familiar with the equipment before attempting to install, operate, service or maintain the transformer. 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 symbol to either 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**.

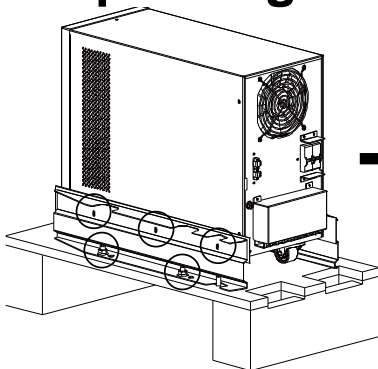
### **⚠ CAUTION**

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

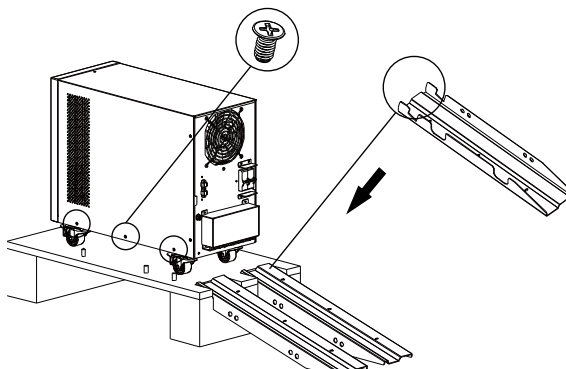
### **NOTICE**

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

## Unpacking Instruction



Remove the screws securing the product to the transport bracket. Remove the nuts securing the transport bracket to the pallet.



Replace the screws securing the product to the transportation bracket (removed in the previous step) with the screws supplied in the kit and tighten them.

To prevent damage to the product and injury to personnel, use the transport bracket as ramp for unloading the product from the pallet.

Be sure to securely position the transport brackets to the pallet before unloading the product.

# Safety 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 transformer is intended for indoor use only.
- Do not operate this transformer in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the transformer are not blocked. Allow adequate space for proper ventilation.
- The equipment is heavy. Always practice safe lifting techniques adequate for the weight of the equipment.
- Always install the transformer the bottom of the rack.
- Always lock the wheels in SRV6KTF/SRV10KTF.
- Additional safety information can be found in the Safety Guide supplied with this unit.

## WARNING

### RISK OF ELECTRIC SHOCK

- Be sure to de-energize the transformer before performing maintenance.
- Be sure that the protective covers or panels are installed when the transformer is in operation.
- Do not insert any object through the ventilation grills when the transformer is in operation..

**Failure to follow these instructions can result in death or serious injury.**

### Electrical safety

- The protective earth conductor for the transformer 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 the transformer. 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.
- Be sure that all the covers and panels are installed before operating the transformer.
- Do not insert any metal object through the ventilation openings.
- Be sure to turn off the input to the transformer and check the voltage at the output terminals is zero before attempting to service or maintain the transformer.

### Hardwire Safety

- Verify that all branch circuit (mains) and low voltage (control) circuits are de-energized, and locked out before installing cables or making connections, whether in the junction box or to the transformer.
- Wiring by a qualified electrician is required.
- Adhere to national and local codes.
- Select wire size and connectors according to national and local codes.
- All openings allowing access to UPS and transformer hardwiring terminals must be covered. Failure to do so may result in personal injury or equipment damage.

### General information

- 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.
- Recycle the package materials or save them for reuse.

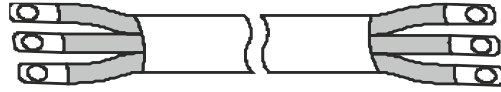
## Product Information

The Easy UPS transformer is intended for use as a step down transformer. This transformer can also function as isolation transformer.

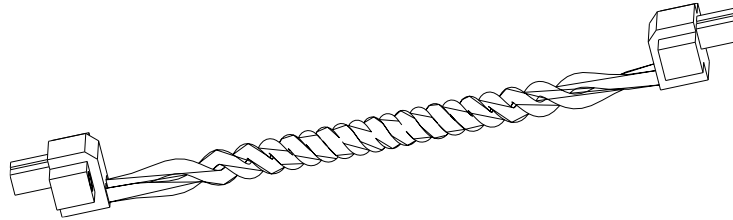
# Package Contents

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

All models



Cable for connecting the transformer to the UPS output



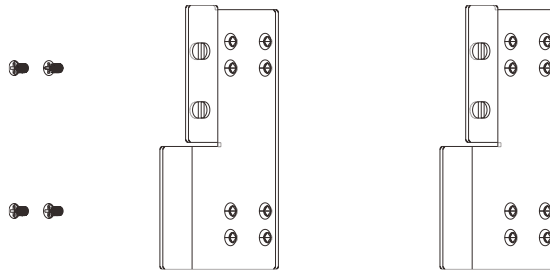
EPO wire connecting to UPS EPO port



User Document

Rack-mount models only

- Rack-mount brackets
- Flat head screws(for securing the rack-mount brackets) 4x




# Specifications

For additional specifications refer to the APC by Schneider Electric web site, [www.apc.com](http://www.apc.com).

## Environmental

<b>Temperature</b>	<b>Operating</b>	0 to 40 °C (32 to 104 °F)
	<b>Storage</b>	-20 to 60 °C (5 to 113 °F)
<b>Maximum Elevation</b>	<b>Operating</b>	0 - 3,000 m (0 - 10,000 ft)
	<b>Storage</b>	0 - 3,000 m (0 - 10,000 ft)
<b>Humidity</b>	0% to 95% relative humidity, non-condensing	
<b>Audible Noise</b>	< 65 dBA (avg) @ 1 m	
<b>International Protection Code</b>	IP20	

## Physical

<b>Lifting guidelines</b>	 >55 kg >120 lb			
	SRV6KTF	SRV10KTF	SRV6KRTF	SRV10KRTF
<b>Unit weight, without packaging</b>	45.0 kg (102 lbs)	53.0 kg (120 lbs)	55.0 kg (121.2 lb)	81.0 kg (178.6 lb)
<b>Unit weight, with packaging</b>	55.6 kg (122 lbs)	63.6 kg (140 lbs)	70.0 kg (154.3 lb)	96.0 kg (220.5 lb)
<b>Unit dimensions without packaging Height x Width x Depth</b>	368.6 x 190 x 469.3 mm (14.5 x 7.5 x 18.5 in)		130.8 x 438 x 640.3 mm (5.1 x 17.2 x 25.2 in)	130.8 x 438 x 720.3 mm (5.43 x 17.2 x 28.4 in)
<b>Unit dimensions with packaging Height x Width x Depth</b>	535 x 305 x 585 mm (21 x 12 x 23 in)		376mm x 600 mm x 900 mm (14.8 in x 24 in x 35.4 in)	
The model and serial numbers are on a small label located on the rear panel.				

## Electrical

Note:

- Operation above the input voltage range may cause equipment damage.
- Operation below the input voltage range may cause overload or automatic shutdown.
- When connecting directly to a branch circuit, be sure that the line voltage is within specifications.
- When connecting the transformer to the UPS, be sure that the UPS bypass range voltage is within operating range of the transformer.

	SRV6KTF	SRV10KTF	SRV6KRTF	SRV10KRTF
<b>Nominal Input Voltage (Vac)</b>	230 Vac			
<b>Nominal Output Voltage (Vac)</b>	120 Vac			
<b>Input Voltage Range (Vac)</b>	186- 253 Vac			
<b>Input Current Rating</b>	29.6 A	49.4A	29.6 A	49.4A
<b>Line Frequency (Hz)</b>	50/60 Hz			
<b>Efficiency</b>	88-94%			
<b>Maximum Output Power (VA)</b>	6000VA/5400W	10000VA/9000W	6000VA/5400W	10000VA/9000W
<b>Input/Output Power Distribution</b>	Terminal Block DSTB38-05 5P			
<b>Compatible UPS</b>	SRVPM6KI SRVPM6KIL	SRVPM10KI SRVPM10KIL	SRVPM6KRI SRVPM6KRIL	SRVPM10KRI SRVPM10KRIL

CAUTION: Transformer to be used with compatible UPS only.

# Installation

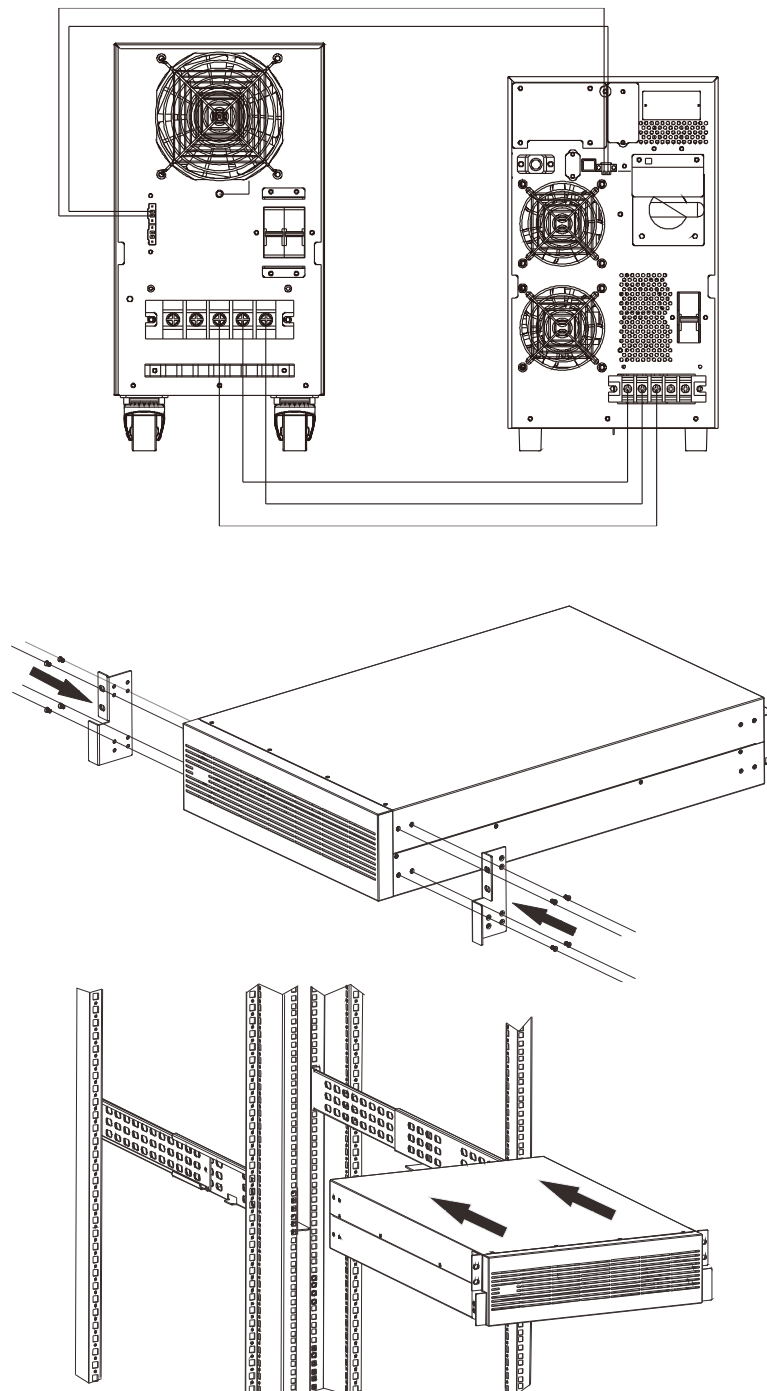
Optional Rail Kit accessories SRVRK2 to enable the installation of UPS in rack-mount configuration is available for purchase.

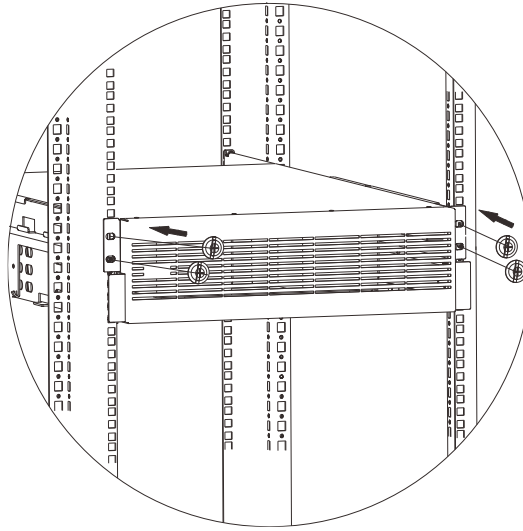
## CAUTION

### RISK OF FALLING OBJECTS AND EQUIPMENT DAMAGE

- 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 UPS and transformer.
- Always install the transformer at the bottom of the rack.

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





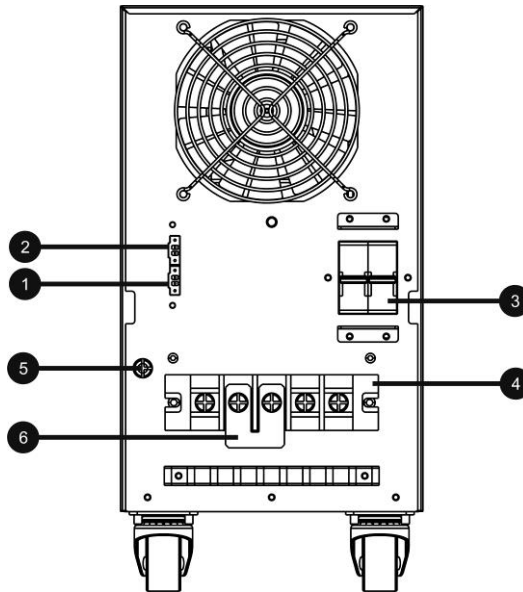
## Connect UPS and Equipment to the Transformer

Note:

The neutral terminal of the transformer output and protective earth terminal are interconnected by a busbar. To isolate the output neutral of the transformer from protective earth, remove the interconnecting busbar.

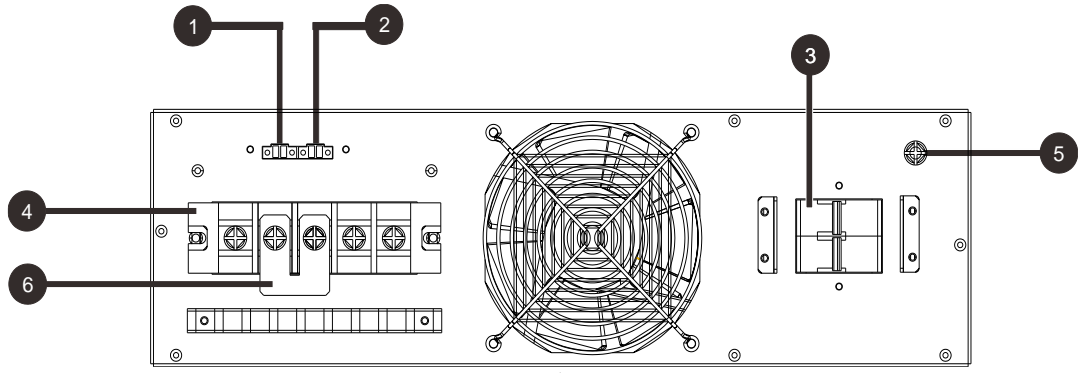
### Rear panel

SRV6KTF/ SRV10KTF



Tower

<b>1</b>	EPO terminal – To switch	<b>4</b>	Input/output hardwire terminal block
<b>2</b>	EPO terminals - To UPS	<b>5</b>	Output ground
<b>3</b>	Circuit Breaker	<b>6</b>	Output neutral to protective earth interconnection bus bar



Rack

<b>1</b>	EPO terminals - To EPO switch	<b>4</b>	Input/output hardwire terminal block
<b>2</b>	EPO Terminals - To UPS	<b>5</b>	Output ground
<b>3</b>	Circuit Breaker	<b>6</b>	Output neutral to protective earth interconnection bus bar

**⚠ CAUTION**

**RISK OF ELECTRIC SHOCK**

- Adhere to all national and local electrical codes.
- All electrical work must be performed by a qualified electrician.
- Turn off all power to this equipment before working on the equipment.
- Switch off the external circuit breaker. Practice lockout/tagout procedures.
- Do not wear jewelry when working with electrical equipment.
- Select wire size and connectors according to national and local codes.

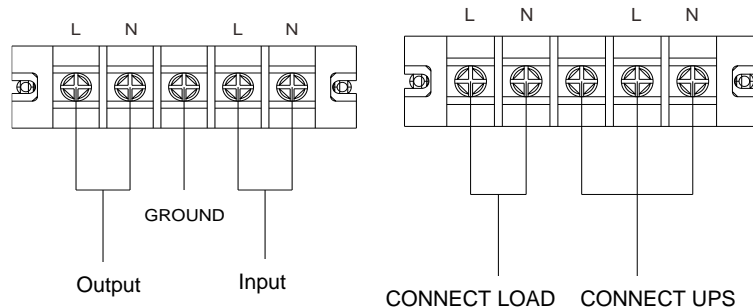
**Failure to follow these instructions could result in equipment damage and minor or moderate injury.**

1. Recommended wire sizes

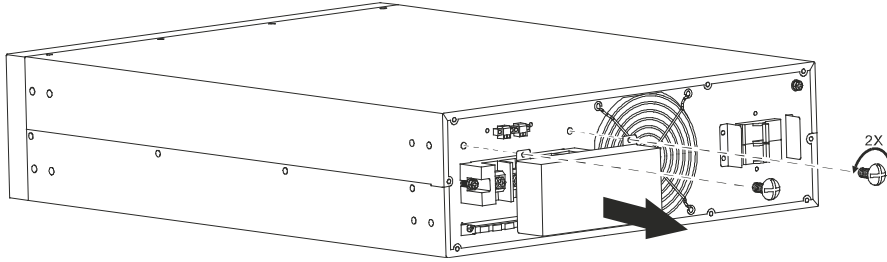
Model	Wiring spec (AWG)			
	SRV6KTF	SRV10KTF	SRV6KRTF	SRV10KRTF
Output*	6	6	6	6
Ground	6	6	6	6

\*Keep length of output wires as short as possible to avoid voltage drop in output cables.

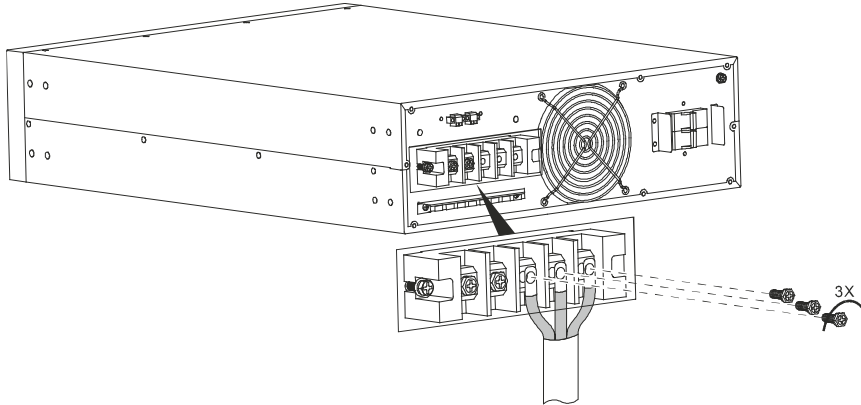
2. Input/Output hardwiring



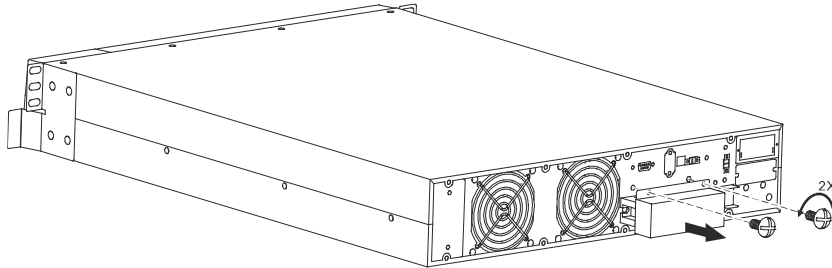
- a. Locate the screws securing the hardwire terminal cover on the rear panel of the transformer.
- b. Remove the screws and remove the hardwire terminal cover on the transformer.



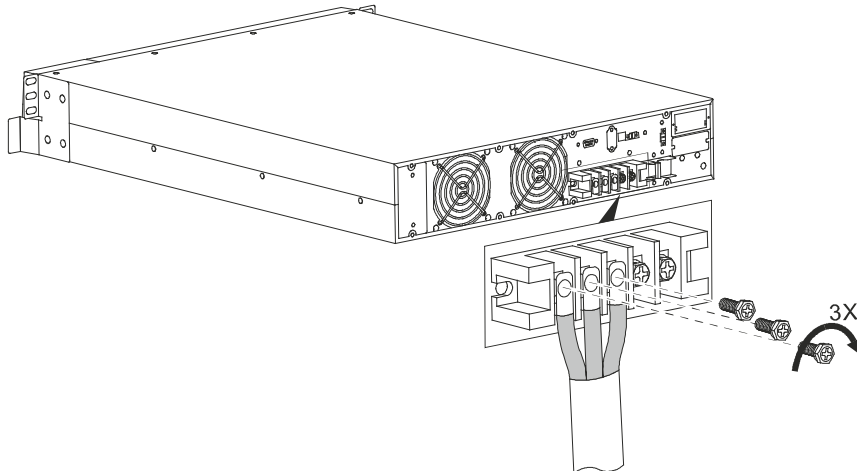
- c. Connect the wires from the UPS output to the input terminals of the transformer.
- NOTE:** Be sure to connect the respective wires to the terminals as per the marking on the terminal blocks.



- d. Re-install the terminal cover removed in step b.
- e. Locate the screws securing the hardwire terminal cover on the rear panel of the UPS.
- f. Remove the screws and remove the hardwire terminal cover on the UPS.



- g. Connect the wires to the UPS output terminals.
- NOTE:** Be sure to connect the respective wires to the terminals as per the marking on the terminal blocks.



- h. Re-install the terminal cover removed in step f.



- i. Connect a EPO switch to EPO Terminals – To EPO switch.
- j. Connect EPO terminals-from Transformer to the EPO terminals of the UPS.

**NOTE:** If the EPO terminal from the transformer is not connected to EPO terminal of the UPS, the transformer will not get switched off if an over temperature event occurs.

## Start-Up

NOTE: When the transformer is energized for the first time, varnish smell can emanate from the unit for a short duration.

<b>⚠ WARNING</b>
<p><b>RISK OF ELECTRIC SHOCK</b></p> <p>Be sure that all the covers/panels are secured while operating the transformer.</p> <p><b>Failure to follow these instructions can result in death or serious injury.</b></p>

<b>⚠ CAUTION</b>
<p><b>RISK OF EQUIPMENT DAMAGE</b></p> <ul style="list-style-type: none"> <li>Disconnect the mains input circuit breaker before installing or servicing the UPS or transformer or connected equipment.</li> <li>Disconnect equipment from the UPS and transformer before servicing any equipment.</li> </ul> <p><b>Failure to follow these instructions could result in equipment damage and minor or moderate injury.</b></p>

1. Be sure that the output of UPS is turned off.
2. Be sure that the input circuit breaker on the rear panel of the transformer is turned off.
3. Connect the input and output wires to the transformer terminal. Refer to “Input/Output Hardwiring” on page 7.
4. Turn on the UPS output.
5. Turn on the transformer input circuit breaker.
6. Turn on the connected equipment.

## Troubleshooting

Problem and/or Possible Cause	Solution
<b>No output voltage with the input voltage normal</b>	
The transformer is not working properly.	Replace the transformer.
Output cables are not connected properly.	Be sure that the out cable is secured tightly to the terminals.
The input circuit breaker is not working properly.	Replace the input circuit breaker.
<b>The fan is not working</b>	
The fan is not working.	Replace the fan.
<b>No input voltage on the input terminal</b>	
UPS EPO function is enabled	Be sure that the EPO wire connection between the transformer and the UPS is secured properly.
	Be sure that the EPO terminal is functioning properly. Replace the EPO terminal if it is not functioning properly.

# 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 Customer Support through the APC 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 top panel of the unit.
  - b. Call APC 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 web site 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.
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](http://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.

**EXCEPT AS SET FORTH ABOVE, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, APPLICABLE TO PRODUCTS SOLD, SERVICED OR FURNISHED UNDER THIS AGREEMENT OR IN CONNECTION HEREWITH.**

**SEIT DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTION AND FITNESS FOR A PARTICULAR PURPOSE.**

**SEIT EXPRESS WARRANTIES WILL NOT BE ENLARGED, DIMINISHED, OR AFFECTED BY AND NO OBLIGATION OR LIABILITY WILL ARISE OUT OF, SEIT RENDERING OF TECHNICAL OR OTHER ADVICE OR SERVICE IN CONNECTION WITH THE PRODUCTS.**

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**IN NO EVENT SHALL SEIT, ITS OFFICERS, DIRECTORS, AFFILIATES OR EMPLOYEES BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER SEIT HAS BEEN ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES. SPECIFICALLY, SEIT IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, WHETHER DIRECT OR INDIRECT, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUANTS, CLAIMS BY THIRD PARTIES, OR OTHERWISE.**

**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 web site: [www.apc.com](http://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](http://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.