

Owner's Manual

SmartOnline™

Tower/Rackmount Power Protection

SU6000RT3UPM • SU10KRT3UPM

Tower/Rackmount UPS Systems

SU6000XFMR • SU10KXFMR

Tower/Rackmount Isolation Transformers

BP240V7RT3U • BP240V10RT3U

Tower/Rackmount Battery Packs



Tested To Comply With FCC Standards

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18/35/52



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Important Safety Warnings



SAVE THESE INSTRUCTIONS. This manual contains important instructions and warnings that should be followed during the installation and maintenance of all Tripp Lite SmartOnline Rackmount UPS Systems and their batteries.

UPS Location Warnings

- Install your UPS indoors, away from excess moisture or heat, direct sunlight, dust and conductive contaminants.
- Install your UPS in a structurally sound area. Your UPS is extremely heavy; take care when moving and lifting the unit.
- Only operate your UPS at indoor temperatures between 32° F and 104° F (between 0° C and 40° C). For best results, keep indoor temperatures between 62° F and 84° F (between 17° C and 29° C).
- Leave adequate space around all sides of the UPS for proper ventilation: 12 in. (30 cm.) clearance at the rear; 4 in. (10 cm.) at sides and on top.
- Do not install the UPS near magnetic storage media, as this may result in data corruption.

UPS Connection Warnings

- The power supply for this unit must be single phase rated in accordance with the equipment nameplate. It also must be suitably grounded.

Equipment Connection Warnings

- Do not use Tripp Lite UPS Systems in life support applications in which a malfunction or failure of a Tripp Lite UPS System could cause failure or significantly alter the performance of a life support device.
- Connect your UPS's and/or isolation transformer's grounding terminal to a grounding electrode conductor.
- The UPS is connected to a DC energy source (battery). The output terminals may be live when the UPS is not connected to an AC supply.

Maintenance Warnings

- Your UPS, transformer and battery pack(s) do not require routine maintenance. Do not open them for any reason. There are no user-serviceable parts inside.

Battery Warnings

- Do not operate your UPS without connecting it to an external battery pack.
- Connect only Tripp Lite battery packs to your UPS's external battery connector.
- The batteries in your battery pack are recyclable. Refer to local codes for disposal requirements, or if in the USA call 1-800-SAV-LEAD (1-800-728-5323) for complete recycling information. CAUTION: Do not dispose of the batteries in a fire, as this could cause the battery to explode.
- Because the batteries present a risk of electrical shock and burn from high short-circuit current, batteries should be changed only by trained service personnel observing proper precautions. Consult your battery pack manual before proceeding. Remove watches, rings, and other metal objects. Use tools with insulated handles. Wear rubber gloves and boots. Do not lay tools or metal parts on top of the batteries. Do not short or bridge the battery terminals with any object. Disconnect the charging source prior to connecting or disconnecting battery terminals. Determine if the batteries are inadvertently grounded. If inadvertently grounded, remove the source of the ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock will be reduced if such grounds are removed during installation and maintenance.
- Do not open or mutilate the batteries. Released electrolyte is harmful to the skin and eyes, and may be toxic.
- Fuses should be replaced only by factory authorized personnel. Blown fuses should be replaced only with fuses of the same number and type.
- Service and repair should be done only by trained personnel. During any service work to the UPS, it should be turned off or manually bypassed via the transformer (see pg. 6-7). Note that potentially lethal voltages exist within this unit as long as the battery supply is connected.
- Do not connect or disconnect battery pack(s) while the UPS is operating from the battery supply or when the transformer is not in bypass mode.
- During "hot-swap" battery pack replacement (when the transformer is on manual bypass and connected equipment is turned ON) your UPS will be unable to provide battery backup in the event of a blackout.

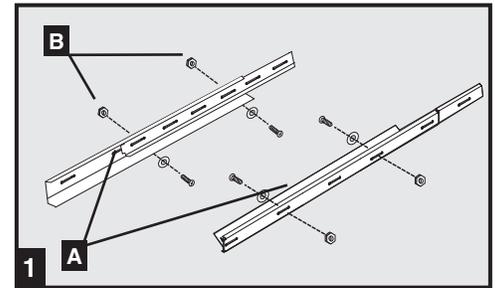
Mounting

Your equipment may be rackmounted in 4-post rack enclosures using the included rack shelves and the following suggested mounting procedures, which should be used instead of the procedures described in your Owner's Manual (if any). These procedures are for common enclosure types and may not be appropriate for all rack enclosures. You must determine the fitness of rackmount hardware and procedures before mounting. If this hardware or these procedures are not suitable for your application, contact your rack enclosure's manufacturer for a solution.

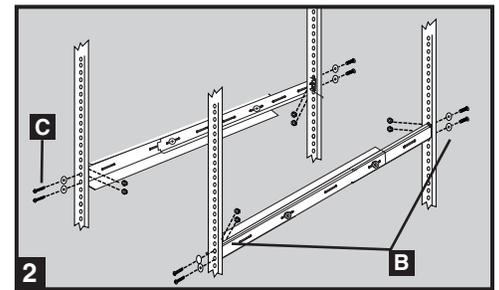
Mount one piece of equipment in a 4-post rack section using the Single Unit Installation procedure, or one piece of equipment in a 2-post rack using the 2-Post (Telecom) Installation procedure. If you have two UPSRMR II shelf kits and a sufficiently deep rack, you may mount two pieces of equipment in a 4-post rack section using the Back to Back Installation procedure.

Single Unit Installation

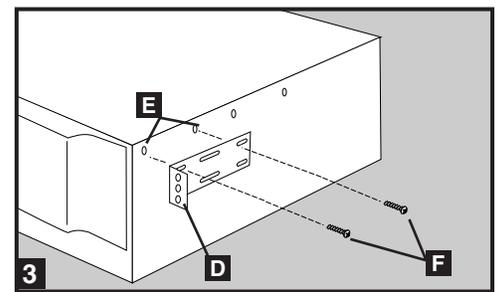
- 1 Connect the two segments of each shelf (A) using the included screws and nuts (B). Leave the screws slightly loose so that the shelves can be adjusted in the next step.



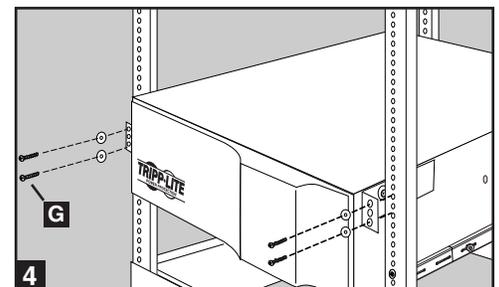
- 2 Adjust each shelf to fit your rack, then mount them in the lowest available space of your rack with the screws, nuts and washers provided (C). Note that the support ledges should face inward. Tighten the screws that connect the shelf segments (B).



- 3 Attach mounting ears (D) to the front mounting holes of your equipment (E) using the screws provided (F). The ears should face forward.



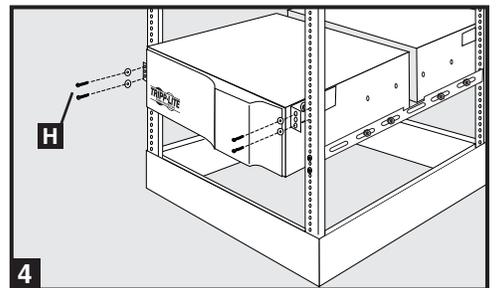
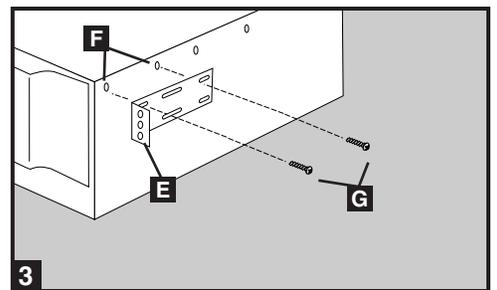
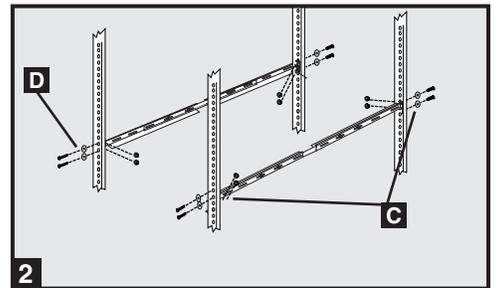
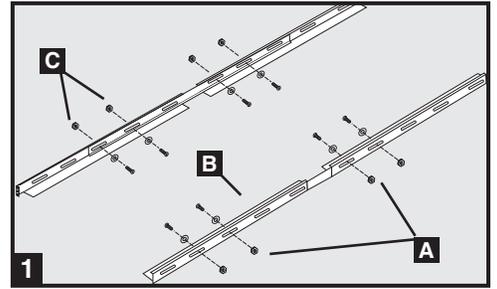
- 4 Using an assistant if necessary, lift your equipment and slide it onto the mounting shelves. Attach your equipment to the rack by passing the screws, nuts and washers provided (G) through its mounting ears and into the rack rails.



Mounting *continued*

Back-to-Back Installation

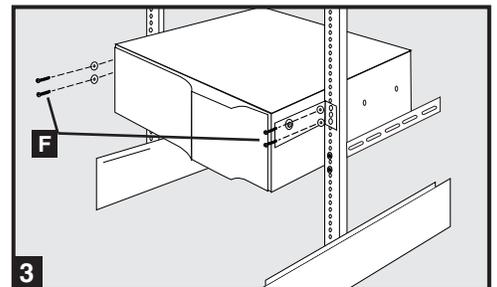
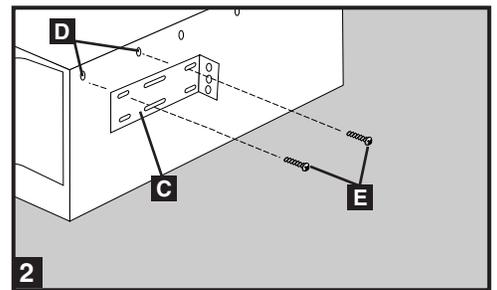
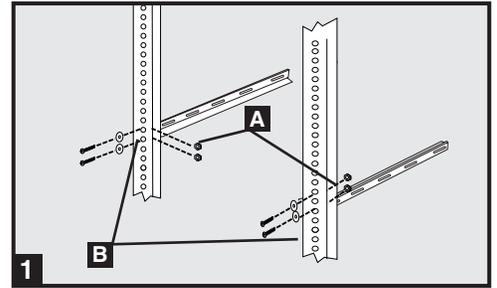
- 1** Connect the shelved sections from two UPSRMRII kits (A) to the unshelved sections (B) using the included screws and nuts (C). Note: Two unshelved sections will be left over. Leave the screws slightly loose so that the shelves can be adjusted in the next step.
- 2** Adjust each shelf to fit your rack, then mount them in the lowest available space of your rack with with the screws, nuts and washers provided (D). Note that the support ledges should face inward. Tighten the screws that connect the shelf segments (C).
- 3** Attach mounting ears (E) to the front mounting holes of your equipment (F) using the screws provided (G). The ears should face forward.
- 4** Using an assistant if necessary, lift your equipment and slide it onto the mounting shelves. Attach your equipment to the rack by passing the screws, nuts and washers provided (H) through its mounting ears and into the rack rails.



Mounting *continued*

2-Post (Telecom) Installation

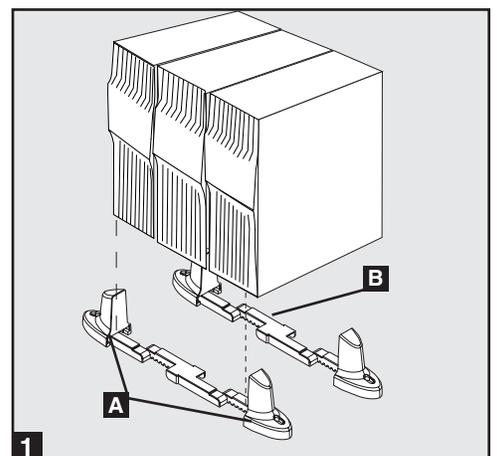
- 1** Mount the shelved sections (A) of your UPSRMR II kit on the back side of your rack. Mount them in the lowest available space of your rack with the screws, nuts and washers provided (B). Note that the support ledges should face inward.
- 2** Attach mounting ears (C) to the front mounting holes of your equipment (D) using the screws provided (E). The ears should face backward.
- 3** Using an assistant if necessary, lift your equipment and slide it onto the mounting shelves. Attach your equipment to the rack by passing the screws, nuts and washers provided (F) through its mounting ears and into the rack rails.



Suggested Tower Mount Installation

- 1** The UPS system is shipped with two sets of plastic feet (A) and extensions (B) that can be used to tower mount the UPS, a battery pack, and either an isolation transformer or a second battery pack.

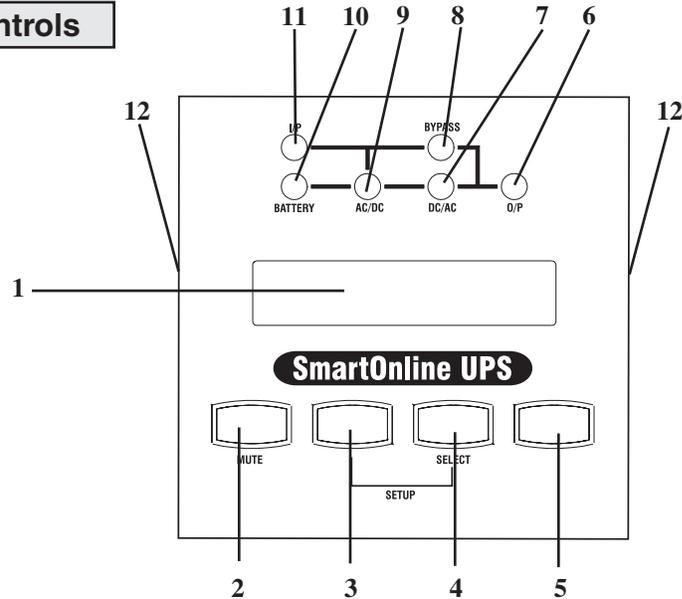
Adjust the feet to a width of 10.25 inches (26 cm) for a UPS and battery pack, or to a width of 15.375 inches (39 cm) for three units. Align the feet in your installation area, approximately 10 inches (26 cm) apart. Have one or more assistants help you place the units on their sides in the feet. The control panel of the UPS should be the UPS's upper corner and face outward. If you are installing a transformer, place it between the UPS and its battery pack.



Features

Familiarize yourself with the location and function of the front and rear panel features before installing and operating your UPS.

UPS Front Panel Controls

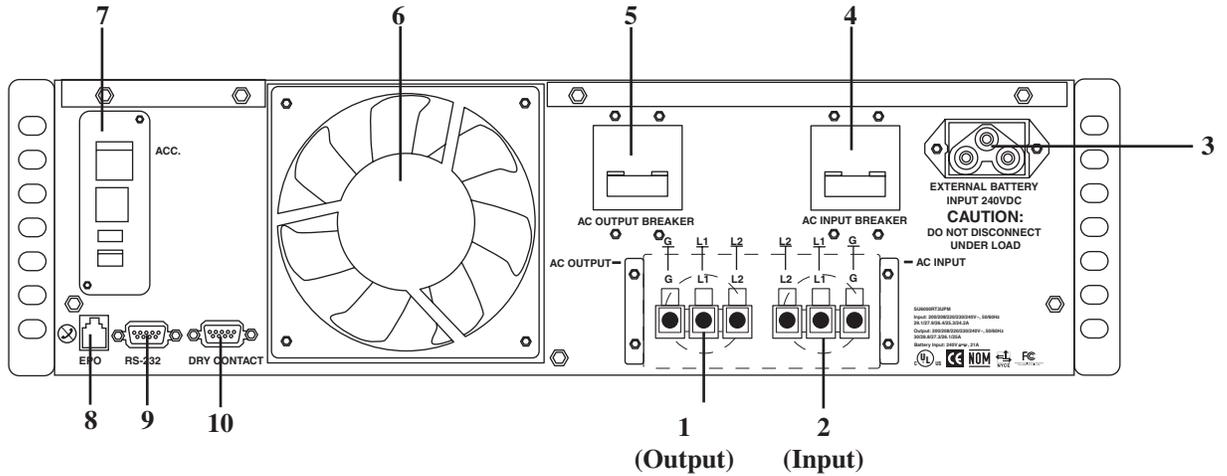


The UPS Front Panel Controls can be rotated in its mounting to match your tower or rackmount installation. To rotate the controls, insert a flathead screwdriver into the Access Slots (12) and gently lever the controls out. Taking care not to excessively twist or pull the cables connecting the controls to the rest of the UPS, turn the controls to the desired orientation and reinsert them.

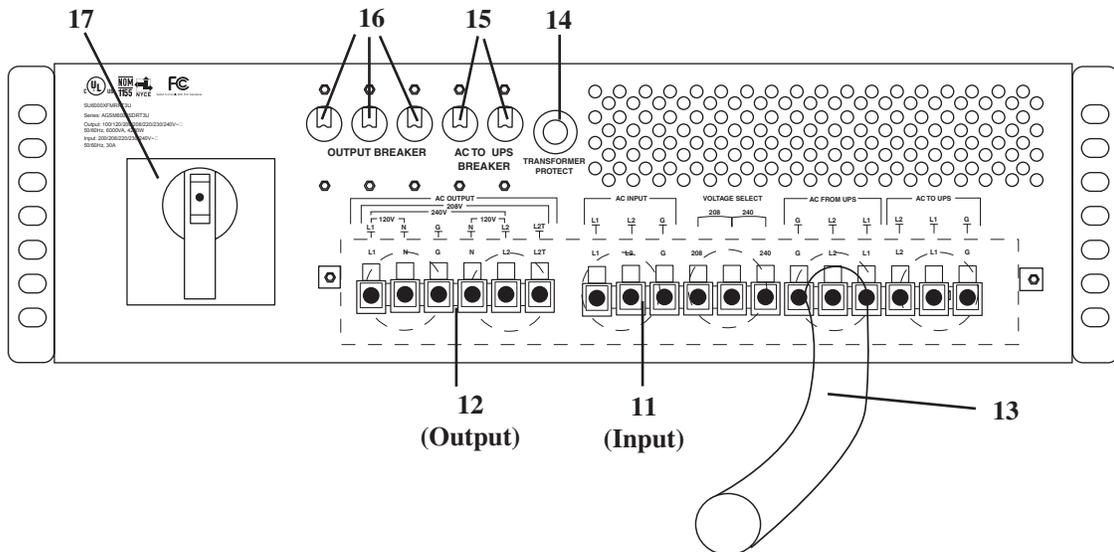
- 1. LCD DISPLAY:** This backlit (16x2 character) dot matrix display indicates a wide range of UPS operating conditions and diagnostic data. It also displays UPS settings and options when the UPS is in setup mode.
- 2. ON/MUTE BUTTON:** Press this button and hold it until you hear a beep to turn the UPS system's inverter ON. If the UPS's battery alarm is sounding, press this button to silence it.
- 3. SCROLL UP/EXIT SETUP BUTTON:** This button allows you to browse through different options and power readings on the LCD display. Momentarily pressing it causes the LCD screen to display a different power reading (see "Normal Operation", pg. 12). Pressing it and the "SCROLL DOWN" button together puts the UPS in setup mode, where this button is used to scroll through setup options and to exit setup mode.
- 4. SCROLL DOWN/SELECT BUTTON:** This button allows you to browse through different options and power readings on the LCD display. Momentarily pressing it causes the LCD screen to display a different power reading (see "Operation", pg. 12). Pressing it and the "SCROLL UP" button together puts the UPS in setup mode, where this button is used to select setup options.
- 5. OFF BUTTON:** Press this button until you hear a beep to turn the UPS system's inverter OFF.
- 6. O/P (OUTPUT) LED:** This green light will illuminate to indicate your UPS is supplying AC power to connected equipment.
- 7. DC/AC (INVERTER) LED:** This green light will illuminate to indicate the UPS's DC/AC inverter is activated.
- 8. BYPASS LED:** This green light will illuminate when the UPS is providing filtered mains power without engaging its converter or inverter. If this LED is lit, connected equipment will not receive battery power in the event of a blackout.
- 9. AC/DC (Converter) LED:** This green light will illuminate to indicate the UPS's AC/DC converter is charging the connected battery pack(s).
- 10. BATTERY LED:** This red light will illuminate when the UPS is discharging the battery to provide connected equipment with AC power. An alarm will sound which can be silenced by pressing the "ON/MUTE" button. This LED will remain lit after the alarm is silenced.
- 11. I/P (INPUT) LED:** This green light will illuminate to indicate an AC input supply is present.
- 12. ACCESS SLOTS:** To rotate the controls, insert a flathead screwdriver into these slots and gently lever the panel out. Taking care not to excessively twist or yank the cables connecting the controls to the rest of the UPS, turn the controls to the desired orientation and reinsert them.

Features *continued*

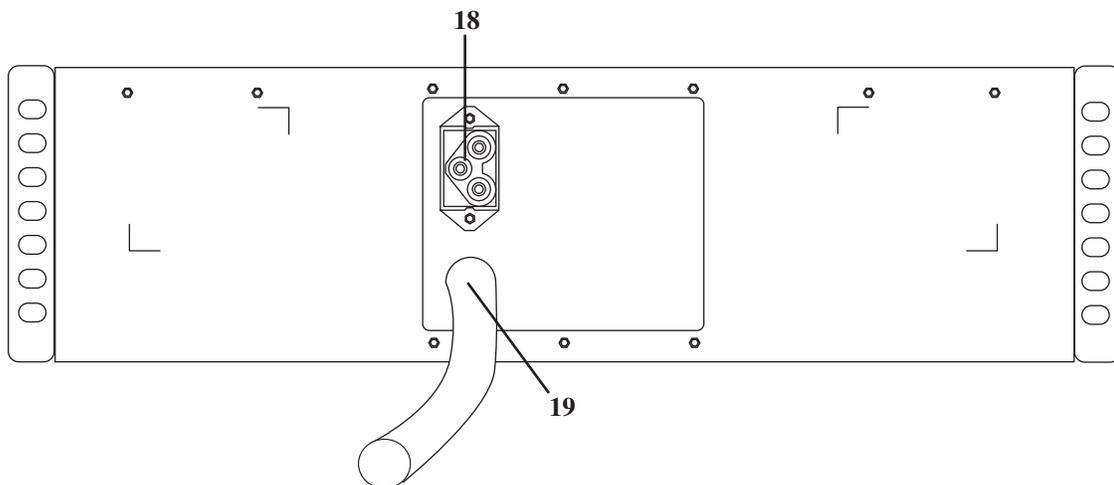
UPS Rear Panel



Isolation Transformer Rear Panel



Battery Pack Rear Panel



Features *continued*

UPS Rear Panel

- 1. Output Terminal Block:** Use these terminals to connect your UPS to your equipment or to the transformer's UPS Connector. Unscrew and remove the cover plate above the block for access.
- 2. Input Terminal Block:** Use these terminals to connect your UPS to your utility power outlet or to the transformer's UPS Connector. Unscrew and remove the cover plate above the block for access.
- 3. External Battery Connector:** Use this to connect one or more Tripp Lite Battery Packs to the UPS. Remove the cover plate for access. The UPS will not operate without a connection to a charged battery pack. Refer to the Battery Pack owner's manual for connection instructions and safety warnings.
- 4. AC Input Breaker:** One double-pole circuit breaker controls input power to the UPS.
- 5. AC Output Breaker:** One double-pole circuit breaker controls output power from the UPS.
- 6. Exhaust Fan:** This cools and ventilates the inside of the UPS.
- 7. Accessory Slot:** Remove the small cover panel to install optional accessories to remotely control and monitor your UPS. Visit Tripp Lite on the Web (www.tripplite.com) to learn about available SNMP, network management and connectivity products that may be installed in this slot.
- 8. EPO (Emergency Power OFF) Port:** This RJ11 modular jack can be connected to a user-supplied switch to enable remote emergency shutdown. See Step 5 in "Connection," pg. 10, for details.
- 9. RS-232 Communication Port:** This female DB9 serial port may be used to connect your UPS to a workstation or server. It uses RS-232 protocol to communicate with a connected computer. It is used with Tripp Lite software and the included serial cable to monitor and manage the UPS remotely over a network and to automatically save open files and shut down equipment during a blackout. See "Connection," pg. 10, for details.
- 10. Dry Contact Interface Port:** This female DB9 port sends contact-closure signals to indicate line-fail and low-battery status. See "Connection," pg. 10, for details.

Isolation Transformer Rear Panel

- 11. Utility Input Terminal Block:** Use these terminals to connect your transformer to utility power. Unscrew and remove the cover plate above the block for access.
- 12. Equipment Output Terminal Block:** Use these terminals to connect your equipment to the transformer. Unscrew and remove the cover plate above the block for access.
- 13. UPS Connector:** Connect your transformer to the UPS's Input Terminal Block by running the wires through this UPS Connector.
- 14. Overtemperature Reset Breaker:** This circuit breaker trips if the unit's temperature climbs too high.
- 15. AC to UPS Breaker:** One double-pole circuit breaker controls the transformer's power output to the UPS.
- 16. Output Breaker:** One triple-pole circuit breaker controls the transformer's power output to connected equipment.
- 17. Manual Bypass Switch:** This red and yellow dial is used to circumvent the UPS while still supporting connected equipment when performing UPS maintenance or switching battery packs. While this switch is on BYPASS, the UPS will charge the batteries and connected equipment will receive filtered AC mains power, but the equipment will not receive battery power in the event of a blackout.

Before performing UPS maintenance or switching battery packs, turn this switch to BYPASS and the AC to UPS breaker off, then shut down the UPS and disconnect it from the transformer (disconnection is not necessary when switching batteries). Since equipment will not receive battery power in the event of a blackout if this switch is on BYPASS, you may want to swap in a second UPS if the first requires lengthy service.

Battery Pack Rear Panel

- 18. Input Connector:** Use this cable to daisy chain additional Battery Packs onto the first. Remove the cover panel for access. Refer to the Battery Pack owner's manual for connection instructions and safety warnings.
- 19. Output Cable:** Use this cable to connect the Battery Pack to the UPS. The UPS will not operate without a connection to a charged battery pack. Refer to the Battery Pack owner's manual for connection instructions and safety warnings.

Connection

Notes on Hardwiring

Wiring must be done by a qualified electrician.

The UPS may be installed on its own or connected to an isolation transformer. Both applications require the UPS to be connected to a battery pack.

When making wiring connections, observe the cable connection regulations appropriate to your area [e.g. National Electrical Code (NEC) in the U.S.] at all times. Be sure to install an easily accessible disconnect switch in your installation wiring so you may cut off the UPS's AC input during fires and other emergencies. Ensure that cables are fitted with cable sleeves and are secured by connector clamps. Tighten connections with a torque of not less than 24-28 inch-pounds (2.7-3.2 NM).

Make sure that your equipment is properly grounded.

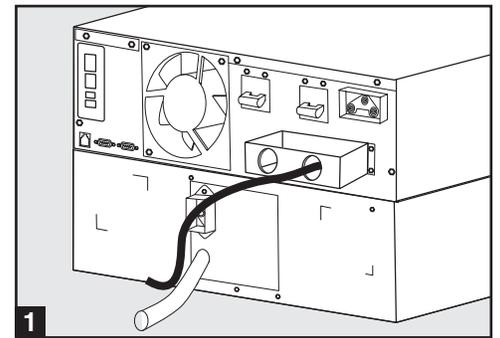
Using cables of improper size may damage your equipment and cause fire hazards. Choose appropriate cabling and protection circuits to make wiring connections (Ground conductors must be the same size and type as the power conductors used):

	RATED INPUT CURRENT	RATED OUTPUT CURRENT	RATED OUTPUT CURRENT	OUTPUT PROTECTION CIRCUIT
	200 - 240 (1Ø, 2-Wire + PE)	200 - 240V (1Ø, 2-Wire + PE)	120V (1Ø, 2-Wire + PE)	
SU6000RT3U	30A 8 AWG (10mm ²)	30A 8 AWG (10mm ²)	2 × 30A 8 AWG (10mm ²)	30A
SU10KRT3U	50A 6 AWG (16mm ²)	50A 6 AWG (16mm ²)	2 × 50A 6 AWG (16mm ²)	63A

Installation—No Isolation Transformer

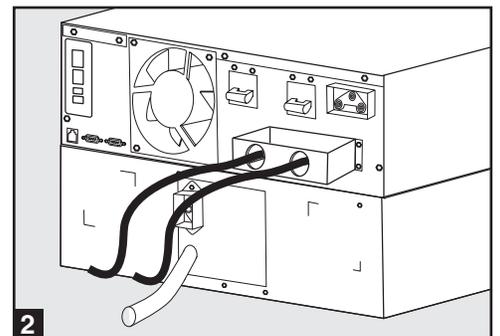
1 Hardwire your utility power source to your UPS's input.

Remove the top of the box covering the UPS's power terminals. Pass one end of a power cable through the UPS's cover box's right knockout, then connect it to the UPS's input terminals. Connect the other end to your utility power source.



2 Hardwire your UPS's output to your equipment.

Pass one end of a power cable through the UPS cover box's left knockout, then connect it to the UPS's output terminals. Replace the top of the UPS cover box. Connect the cable's other end to your load.



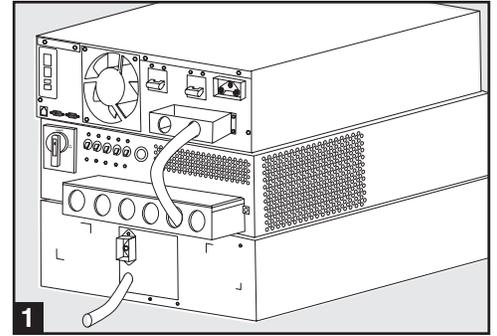
Continue with Installation—All Applications (pg. 10)

Connection *continued*

Installation—With Isolation Transformer

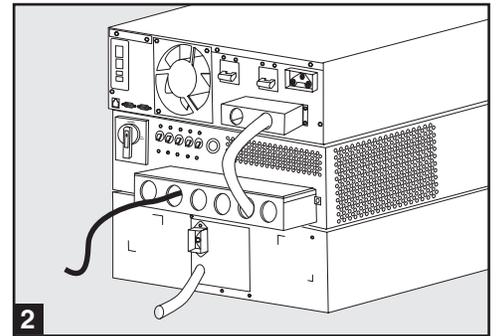
1 Hardwire your isolation transformer's UPS connector to your UPS's input and output.

Remove the tops of the boxes covering the UPS's and transformer's input and output terminals. Pass the free end of the isolation transformer's UPS connector through the UPS's cover box's knockout, then connect it to the UPS's input and output terminals according to the labels on the wires and the terminals. Replace the top of the box covering the UPS's input and output terminals.



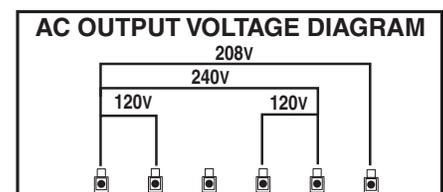
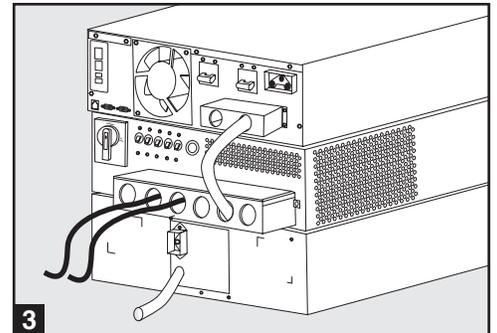
2 Hardwire your equipment to your isolation transformer's equipment output.

Pass your equipment's power cable(s) through one of the transformer cover box's left knockouts, then connect them to the transformer's equipment output terminals. See the Output Voltage Diagram to determine which terminal connections will provide which voltages.



3 Select your input voltage. Hardwire your isolation transformer's utility input to your utility power source.

Place a jumper between the 208V or 240V voltage select terminals to set the transformer's input voltage. Connect one end of a power cable to your utility power source. Pass the cable's other end through one of the transformer cover box's center knockouts, then connect the cable to the utility input terminals. Replace the top of the transformer cover box.



Continue with Installation—All Applications (pg. 10)

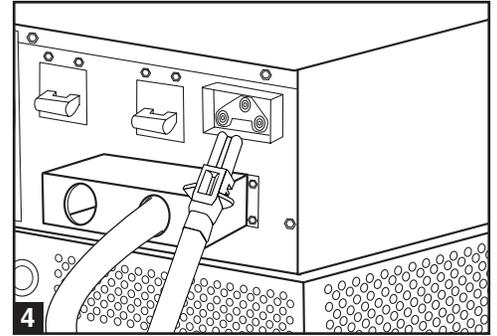
Installation—All Applications

4 Connect external battery pack(s) to your UPS

Your UPS has no internal batteries and must be connected to at least one external battery pack to operate. Complete installation and mounting instructions for your battery pack(s) appear in the battery pack(s)'s owner's manual. Make sure that connection cables are fully inserted into their connectors. Small sparks may result during battery pack connection; this is normal.

Your UPS will not operate unless connected to a charged external battery pack. Battery packs are fully charged prior to shipping. However, if your battery pack has been stored for an extended period, recharge its battery for 8 hours. To charge the battery pack, turn on the UPS's and isolation transformer's AC input breakers. Your UPS may not provide its full runtime if the battery pack is not fully charged.

Once the UPS is operating, it will charge its battery pack(s) automatically.



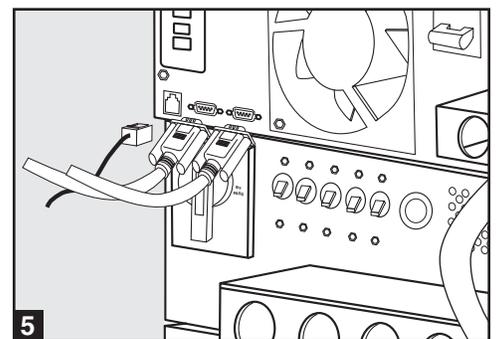
5 Connect communication cables to your UPS (optional)

Connecting communications cables to your UPS is optional; your UPS will operate properly without these connections.

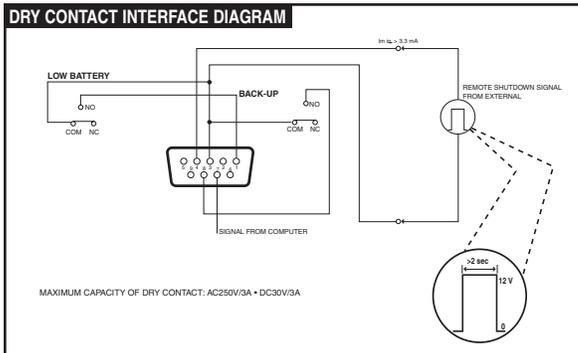
To enable full network monitoring and control of the UPS, use the DB9 cable provided to connect the UPS's RS-232 port to a computer's DB9 serial port. Install Tripp Lite's PowerAlert software onto the computer from the CD provided, or download the most recent version of PowerAlert from www.tripplite.com.

To send and receive basic contact closure signals to and from the UPS, use a contact closure DB9 cable (user-supplied) to connect the UPS's dry contact port to a computer's DB9 serial port. See the Dry Contact Interface Table and Diagram to decipher the signals from this port, or install Tripp Lite's PowerAlert software onto the computer from the CD provided, or download the most recent version of PowerAlert from www.tripplite.com.

To install an emergency power off switch, use a RJ11 cable (user-supplied) to connect the EPO port to a remote switch. The pin assignments for the EPO port are shown below. If there is a short between pins 2 and 3, 2 and 5, 4 and 5, or 3 and 4, the UPS will power off.



DRY CONTACT INTERFACE DIAGRAM

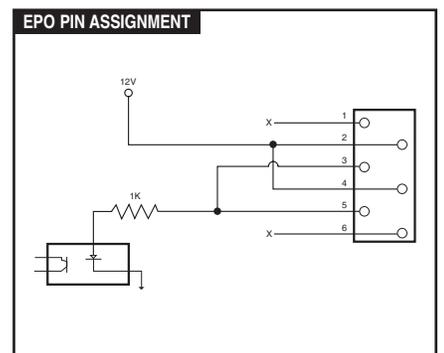


DRY CONTACT INTERFACE TABLE

UPS Operating Mode	Pin 8,3	Pin 1,3	Pin 6,3
Normal	OPEN	OPEN	*
Back Up	CLOSE	*	*
Low Battery	CLOSE	CLOSE	*
Fault	*	*	CLOSE

* Inactive: may be in either state

EPO PIN ASSIGNMENT



6 Turn input to the UPS ON

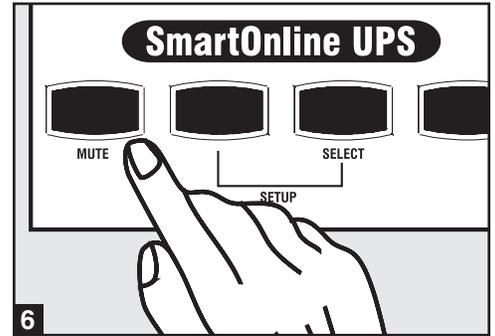
If the UPS is connected to a transformer, turn the transformer's UPS and Load Breakers ON.

Turn the UPS's Input Circuit Breaker ON.

Press the UPS's ON button until you hear a beep to begin inverter operation.

If your AC input is not providing power normally, you may "cold start" your UPS from battery. (Your battery must be at least partially charged for this operation to succeed.) Press and hold the "ON" switch until you hear a beep to start your UPS in "ON BATTERY" mode. Note that some electronic equipment may draw more amps during startup; when starting from battery, consider reducing the initial load on the UPS.

Your UPS will perform a brief self-test and show the results on the LCD Display. See the Self-Test section, pg. 12, for the display sequence.



7 Configure your UPS's output.

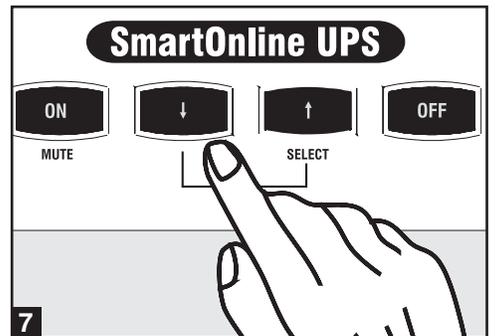
Put your UPS into bypass mode by holding the OFF button down until the UPS beeps, then put your UPS into setup mode by holding down both of its scroll buttons at once. Scroll through the setup options and select the appropriate setting for each of the following options.

Output Voltage: Select 200, 208, 220, 230 or 240 VAC.

Output Frequency: Your UPS will autoselect 50 or 60 Hz to match the input.

Economy Mode: Your UPS can provide on-line operation with zero transfer time. It can also operate in a more energy-efficient line-interactive mode. Select Economy On to put the UPS in line-interactive mode. Select Economy Off to put the UPS in on-line mode.

After you have set these options, exit the setup mode with the scroll buttons, then exit bypass mode by holding the ON button down until you hear a beep.



8 Turn UPS output ON.

Turn the UPS's Output Circuit Breaker ON.

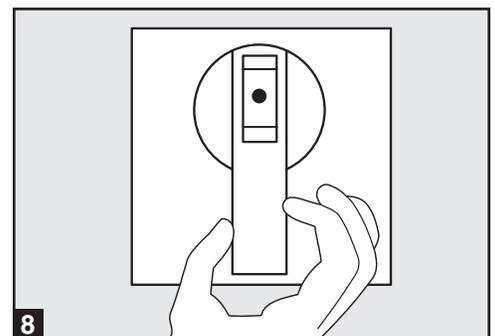
If the UPS is connected to a transformer, turn the transformer's Manual Bypass Switch from BYPASS to NORMAL.

Your UPS will now provide power to connected equipment.

9 To turn the UPS and transformer OFF.

Press the UPS's OFF button until you hear a beep. Your load will still be energized. The inverter is now off, but your UPS is not fully deactivated. The LCD Display will show "BYPASS MODE."

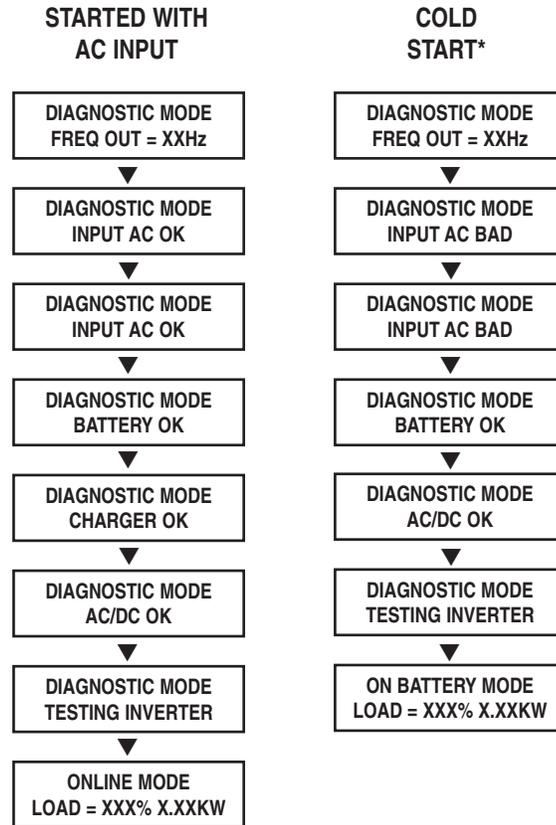
Turn the UPS's Input and Output Circuit Breakers OFF. If the UPS is connected to a transformer, turn the transformer's AC Input and Output Circuit Breakers OFF. Your load will no longer be energized, and the LCD display will be dark.



Operation

Startup Self-Test

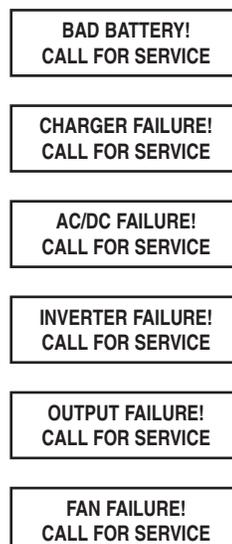
When you turn the UPS ON, it will enter Diagnostic Mode and perform a brief self-test lasting about 15 seconds. The results of the self-test are shown on the LCD screen in the sequence below.



*Note: If the UPS is cold started, its BATTERY LED will be lit.

Failed Self-Test

If a problem is detected during the self-test, the LCD will display a error message. If your UPS displays any of the following messages in its LCD, call Tripp Lite Technical Support at (773) 869-1234 for service.



Operation *continued*

Normal Operation

During normal operation, the first line of your LCD Display shows which operating mode your UPS is in: Online, Economy, On Battery, or Bypass.

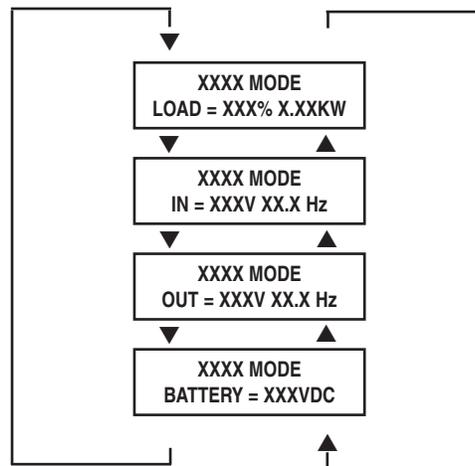
Online mode: The UPS provides AC power while utility power is available and switches to On Battery mode instantly (zero transfer time) if AC power is interrupted.

Economy mode: The UPS provides AC power at high efficiency while utility power is available and switches to On Battery mode quickly if AC power is interrupted.

On Battery mode: The UPS provides AC power from battery backup so long as battery power lasts. It switches back to Online or Economy mode if utility power is available and shuts down if it runs out of battery power.

Bypass mode: The UPS provides AC power while utility power is available. The UPS shuts down if AC power is interrupted.

The second line of the LCD Display shows basic power conditions. Push the SCROLL buttons to browse through these basic power conditions in the sequence shown below.



On Battery Alarm

When in the On Battery mode, the UPS will beep to inform you that it is using battery power to support connected equipment. If its batteries are at more than half capacity, it will beep every two seconds. If its batteries are below half capacity, it will beep twice a second. If its batteries are nearly depleted, the UPS will beep continuously.

To silence the On Battery Alarm, press the “ON/MUTE” button.

Overload Messages

When the UPS detects an output overload, its LCD will switch to the following display:

OVERLOAD!
LOAD=XXX% X.XXKW

The UPS will then begin a countdown. If the UPS is still overloaded at the end of the countdown, the UPS will automatically go to Bypass Mode to protect its inverter. The duration of the countdown varies with the severity of the overload, as follows:

Overload Condition	Countdown Duration
102% - 125%	1 minute
125% - 150%	30 seconds
>150%	Immediate

Bypass Messages

While in Bypass Mode, the UPS monitors its input voltage and passes that input power along to connected equipment. The UPS will not provide battery backup in Bypass Mode.

If the output voltage deviates from an acceptable range (between 15% higher and 20% lower than nominal), the UPS displays the condition on its LCD and stops supplying output power to its load. If power levels return to an acceptable level, the UPS resumes supplying power to the load, and its LCD reports that output voltage was too high or too low at one time, but has returned to nominal.

BYPASS VOLTAGE CONDITIONS	LCD DISPLAY MESSAGES
>15% Higher Than Nominal	NO OUTPUT BYPASS AC TOO HI
>20% Lower Than Nominal	NO OUTPUT BYPASS AC TOO LO
Was Too High, Now Nominal	BYPASS MODE BYPASS AC WAS HI
Was Too Low, Now Nominal	BYPASS MODE BYPASS AC WAS LO

Shutdown Messages

Your UPS will shut down and the LCD will display a message if it detects one of the following conditions. Note: During all these conditions, the “Input,” “Output” and “Bypass” LEDs will be illuminated.

SHUTDOWN CONDITIONS	LCD DISPLAY MESSAGES
Extended Overload	SHUT DOWN OVERLOAD XXX%
Output Short Circuit	SHUT DOWN O/P SHORT CIRCUIT
Remote Shutdown Command (Via DB9)	SHUT DOWN REMOTE COMMAND
Remote Shutdown Command (Via EPO)	SHUT DOWN EMERGENCY STOP!
Internal Faults	SHUT DOWN + DC BUS HIGH
	SHUT DOWN + DC BUS LOW
	SHUT DOWN - DC BUS HIGH
	SHUT DOWN - DC BUS LOW
	SHUT DOWN OVERTEMPERATURE

Service/Warranty and Insurance

Service

Your SmartOnline UPS is covered by the 2-year limited warranty period described below. A variety of service contracts is also available from Tripp Lite, including start-up service contracts and 3- to 5-year SafeSure on-site service contracts. For more information, call Tripp Lite Customer Service at (773) 869-1234.

2-Year Limited Warranty

TRIPP LITE warrants its products including batteries to be free from defects in materials and workmanship for a period of two years from the date of initial purchase. After 90 days from the date of purchase, TRIPP LITE's obligation under this warranty is limited to replacing parts on such defective products. To obtain service under this warranty, you must call TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

The warranties of all TRIPP LITE surge suppressors are null and void if they have been connected to the output of any UPS system. The warranties of all TRIPP LITE UPS Systems are null and void if a surge suppressor has been connected to its output receptacles.

EXCEPT AS PROVIDED HEREIN, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL TRIPP LITE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, TRIPP LITE is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

The policy of TRIPP LITE is one of continuous improvement. Specifications are subject to change without notice.

Ultimate Lifetime Insurance Policy (Valid in U.S. and Canada ONLY)

TRIPP LITE warrants, for the lifetime of the product, (at TRIPP LITE's option) to repair or replace (on a pro rata basis) directly connected equipment that is damaged due to power transients while properly connected to TRIPP LITE products offering the ULTIMATE[®] Lifetime Insurance Policy. Reimbursement or restoration for data loss is not included. Power transients include spikes and surges on the AC power, data or telephone lines that the TRIPP LITE products have been designed to protect against (as recognized by industry standards).

AC Power Line Transients: To claim damages, the TRIPP LITE product must be plugged into a properly wired and grounded outlet. No extension cords or other electrical connections may be used. The installation must comply with all applicable electrical and safety codes set forth by the National Electrical Code (NEC). Except as provided above, this warranty does not cover any damage to properly connected electronic equipment resulting from a cause other than an "AC power transient". If user meets all of the above requirements, TRIPP LITE will repair or replace (at TRIPP LITE's option) equipment up to the specified value (See ULTIMATE[®] Lifetime Insurance Policy Limits). No coverage is allowed for damage entering from telephone or data lines, unless they are separately protected, as described below.

Telephone and Data Line Transients: Tripp Lite will repair or replace directly connected equipment that is damaged by transients on telephone and/or data lines only when all such paths are protected by a Tripp Lite protection product(s) and the AC power (utility) line is simultaneously protected by a Tripp Lite power protection device (UPS, surge suppressor or line conditioner) with Ultimate Lifetime Insurance coverage.

Reimbursement dollar limits will be equal to that of the Tripp Lite power protection product. Coverage is excluded where a suitable environment for the protection device is not provided, including, but not limited to, lack of a proper safety ground. Telephone service equipment must also include a properly installed and operating "primary protection" device at the telephone service entrance (such devices are normally added during telephone line installation).

All above warranties are null and void if the TRIPP LITE product has been improperly installed, tampered with or altered in any way, or if the connected equipment was not used under normal operating conditions or in accordance with any labels or instructions. All claims under this warranty must be submitted in writing to Tripp Lite within 30 days of the occurrence or the claim will not be considered. This warranty does not include damage resulting from accident or misuse, and applies to the domestic (USA & Canada) use of these products only.

Tripp Lite reserves the right to determine whether the damage to the connected equipment is due to malfunction of the Tripp Lite product by requesting the equipment in question be sent to Tripp Lite for examination. This policy is above and beyond, only to the extent needed, of that provided by any coverage of connected equipment provided by other sources, including, but not limited to, any manufacturer's warranty and/or any extended warranties.

EXCEPT AS PROVIDED ABOVE, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL TRIPP LITE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, TRIPP LITE is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties or otherwise.

To receive service under this warranty, you must be the original purchaser/user of the product in question. You must obtain a Returned Material Authorization (RMA) number from TRIPP LITE. Products must be returned to TRIPP LITE with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase.

Specifications

Specifications are for UPS, Isolation Transformer, and one battery pack.

Model	SU6000RT3U	SU10KRT3U
Input		
UPS Input Voltage	156V~276V Single Phase	156V~276V Single Phase
Transformer Input Voltage	200/208/220/230/240V	200/208/220/230/240V
Input Frequency	50/60 Hz \pm 3 Hz	50/60 Hz \pm 3 Hz
Input Current	22.6A	40A
Inrush Current	<150A	<200A
Power Factor (Full Load)	>0.97	>0.97
Efficiency (Full Load/On-Line)	>87%	>88%
UPS Circuit Breaker	40A	63A
Transformer Circuit Breaker	40A (2 pole)	63A (2 pole)
Output		
VA	6000	10000
Watts (Power Factor: 0.7)	4200	7000
Waveform (On-Line)	Sinewave	Sinewave
Waveform (On-Battery)	Sinewave	Sinewave
Output Voltage (RMS)	120/200/208/220/230/240V	120/200/208/220/230/240V
Output Frequency	50/60 Hz (\pm 0.2 Hz on battery)	50/60 Hz (\pm 0.2 Hz on battery)
Voltage Regulation	\pm 3%	\pm 3%
Max. Harmonic Distortion (Linear Full Load) (Non-Linear Full Load)	<3% <6%	<3% <6%
Overload Capabilities	102% (continuous) 102%~125% (1 min.) 125%~150% (30 sec.) >150% (Immediate)	102% (continuous) 102%~125% (1 min.) 125%~150% (30 sec.) >150% (Immediate)
Short Circuit Capability	90A*	160A*
UPS Circuit Breaker	40A	63A
Transformer Circuit Breaker	30A (3 pole)	63A (3 pole)
Crest Factor	3:1	3:1

*The short circuit capability at 1 ϕ 2W 120V for the SU6000RT3U is greater than 180A, and for the SU10KRT3U is greater than 320A.

Operation

On-Line Transfer Time (Line to Battery, Battery to Line)	0 ms	0 ms
Audible Noise (Full Load @ 1 m)	<50 dBA	<55 dBA
Typical Backup Time (Single Battery Pack)		
(Full Load)	10 min.	6 min.
(Half Load)	25 min.	15 min.

Indicators

Includes an LCD Display and LEDs (I/P (input), BATTERY, AC/DC, BYPASS DC/AC, O/P (output)).

Communications

Includes an RS-232 DB9 female connector, a dry contact DB9 female connector and an accessory slot.

Physical Specifications

(H \times D \times W)	5 $\frac{1}{8}$ \times 17 $\frac{1}{2}$ \times 22 $\frac{1}{2}$ in. (13 \times 45 \times 58 cm.)	5 $\frac{1}{8}$ \times 17 $\frac{1}{2}$ \times 22 $\frac{1}{2}$ in. (13 \times 45 \times 58 cm.)
Net Weight (UPS)	42 lb. (19.1 kg)	53 lb. (24.1 kg)
Net Weight (Transformer)	120 lb. (54.5 kg)	120 lb. (54.5 kg)
Net Weight (Battery Pack)	170 lb. (77.3 kg)	170 lb. (77.3 kg)