

## SmartOnline 208/240 & 120V 6kVA 5.4kW Double-Conversion UPS, 6U Rack/Tower, Extended Run, Network Card Options, USB, DB9 Serial, Bypass Switch, Hardwire

MODEL NUMBER: **SU6000RT4UTFHW**



### Description

Tripp Lite SU6000RT4UTFHW 6000VA / 6kVA / 5400 watt on-line, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 6U rack/tower compatible configuration. Full-time active power conditioning provides clean, continuous dual-conversion AC output free of voltage fluctuations, power interruptions and line noise. Fault-tolerant auto-bypass prevents unexpected service interruptions during UPS overload or internal fault conditions. Detachable back panel PDU with manual bypass switch supports hot-swappable UPS power module replacement with no interruption to connected equipment. 4U UPS power module and included 2U low-voltage transformer install in only 6 rack spaces total (6U) with a maximum installed depth of only 21.8 in. / 55.3 cm. Maintains full-time sine wave output within 2% of selectable 208/240V and 120V nominal at 60Hz during brownouts as low 100V and overvoltages as high as 300V. Expandable runtime is supported with optional BP192V12-3U external battery packs. Battery independent restart ensures automatic UPS power-up without user interaction after lengthy power outages, even when batteries are expired and require replacement. Double-conversion operation converts raw input from AC to DC, then resynthesizes output power back to perfect sine wave AC with enhanced protection from harmonic distortion, fast electrical impulses and other hard-to-solve power problems not addressed by other UPS types. Highly efficient operation in optional economy mode significantly reduces BTU heat output and operating energy costs. Network-grade AC surge and noise suppression. Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via built-in RS-232 and USB interfaces. Optional network management card options. HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X. PowerAlert monitoring software offers detailed site power and UPS updates with support for safe auto-shutdown of connected systems as UPS batteries become depleted. Supports Emergency Power Off (EPO) via built-in interface. Front panel LEDs and LCD readout with scroll controls support front-panel visual monitoring of all major UPS for a variety of control options to support advanced UPS settings and configurations. LED / LCD display panel rotates for viewing in rackmount or tower configurations. Hardwire input. Hardwire UPS output, plus 1 L6-30R, 8 5-15/20R and 4 5-15R outlets. External battery packs are field replaceable and hot swappable. \$250,000 Ultimate Lifetime Insurance (U.S., Canada, and Puerto Rico only)

### Features

- Tripp Lite SU6000RT4UTFHW 6000VA / 6kVA / 5400 watt on-line, double-conversion UPS system in a 6U rack/tower compatible configuration (4U power module plus 2U low-voltage transformer)
- Full-time active power conditioning maintains clean, continuous dual-conversion AC output free of

### Highlights

- 6kVA / 6000VA / 5400W on-line double-conversion UPS; 0.9 power factor
- 208/120V or 240/120V 60Hz output; Economy mode option
- 6U Rack/Tower installation; Hot-swappable power and battery modules
- USB, RS232 & EPO ports; Network management and contact-closure card options
- Front panel LEDs with detailed LCD monitoring and control screen
- Expandable runtime with optional external battery packs
- Hardwire input (3 wire); NEMA 5-15R, 5-15/20R & Hardwire outputs

### Package Includes

- SU6000RT4UHVPM Hot-swappable UPS Power Module
- SUPDMB6KHW Detachable PDU with Maintenance Bypass Switch
- SU6000XFMR2U Low voltage transformer
- 1 x 6-ft. USB Cable
- 1 x 6-ft. Serial Cable
- 4 Post Rackmount Hardware (2 sets)

voltage fluctuations, power interruptions and line noise

- Fault tolerant electronic bypass maintains utility output during a variety of UPS fault conditions
- Detachable back panel PDU contains input line cord connection, output receptacles and manual bypass switch to support hot-swappable whole UPS replacement with no interruption to connected equipment
- Hardwire input (208/240V L1, L2 + G)
- Hardwire high and low voltage output, plus 8 5-15/20R and 4 5-15R 120V outlets
- Included rail kit supports 4U 19 inch rackmount installation in 4 post racks
- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (2 required for SU6000RT4UTFHW)
- Optional 2-9USTAND supports upright tower placement (1 required for SU6000RT4UTFHW)
- Maximum installed rack depth of only 21.8 in. / 55.3 cm
- Maintains full-time sine wave output within 2% of selected 208/240V and 120V nominal at 60Hz in double conversion mode
- Corrects brownouts to 156V at full load (100V at 50% load or less)
- Corrects overvoltages to 290V at full load (300V at 90% load or less)
- Double-conversion operation offers full-time AC to DC, then DC to AC conversion to maintain perfectly regulated sine wave AC output with enhanced protection from harmonic distortion, fast electrical impulses and other hard-to-solve power problems not addressed by other UPS types
- High efficiency ECONOMY MODE operation significantly reduces BTU heat output and operating energy costs
- Network-grade AC surge and noise suppression
- Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via built-in RS-232, USB and optional SNMP card slot interfaces
- Compatible with Tripp Lite UPS management card options TLNETCARD, WEBCARDLX, SNMPWEBCARD, MODBUSCARD and RELAYIOCARD
- Optional RELAYIOMINI interface module offers three configurable hard contact closure outputs for custom event notification (requires removal of USB interface module)
- HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X
- USB & Serial ports enable data-saving unattended shutdown when used with Tripp Lite's PowerAlert software, available via FREE download from [tripplite.eaton.com/products/power-alert](http://tripplite.eaton.com/products/power-alert)
- Front panel LEDs and LCD readout with scroll controls support front-panel visual monitoring of all major UPS functions with support for a variety of control options to support advanced UPS settings and configurations
- LED/LCD display panel rotates for viewing in rackmount or tower configurations
- Supports Emergency Power Off (EPO) via built-in interface
- Battery independent restart ensures automatic UPS power-up without userinteraction after lengthy power outages, even when batteries areexpired and require replacement
- BP192V12-3U external battery packs are field replaceable and hot swappable
- Intelligent battery management system with temperature-compensated charging extends battery life
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- \$250,000 Ultimate Lifetime Insurance (U.S., Canada, and Puerto Rico only)

## Specifications

### OVERVIEW

UPC Code

037332157225

|   |   |
|---|---|
| UPS Type                                      | On-Line   |
| <b>INPUT</b>                                  |   |
| Input Phase                                   | Single-Phase  |
| Rated input current (Maximum Load)            | 31.9A (200V), 30.6A (208V), 29A (220V), 27.7A (230V), 26.6A (240V)  |
| Nominal Input Voltage(s) Supported            | 208V AC; 240V AC  |
| Nominal Input Voltage Description             | Factory configured to 208V  |
| UPS Input Connection Type                     | Hardwire  |
| UPS Input Connection Description              | 3 wire single phase input (L1, L2, G)   |
| Recommended Electrical Service                | 40A (200/208v); 30A (220/230/240v)  |
| <b>OUTPUT</b>                                 |   |
| Output Capacity (VA)                          | 6000  |
| Output Capacity (kVA)                         | 6   |
| Output Capacity (Watts)                       | 5400  |
| Output Capacity (kW)                          | 5.4   |
| Output Capacity Details                       | Supports up to 105% load continuously in double conversion mode, 106 to 125% for 1 minute, 126% to 150% for 30 seconds; Loads over 150% trigger immediate bypass mode operation to support loads directly from mains power; Double conversion mode is automatically restored as the overload is cleared |
| Power Factor                                  | 0.9   |
| Crest Factor                                  | 3:1   |
| Nominal Voltage Details                       | This configuration requires the Power Module be set to 208 or 240V output voltage; included step-down transformer supports 120V output (when the voltage-selection switch on the transformer module is set to match the 208 or 240V power module setting)   |
| Frequency Compatibility                       | 60 Hz   |
| Frequency Compatibility Details               | Output frequency regulation +/- 0.05Hz (free running)   |
| Output Voltage Regulation (Line Mode)         | +/- 2%  |
| Output Voltage Regulation (Economy Line Mode) | +/- 10%   |
| Output Voltage Regulation (Battery Mode)      | +/- 2%  |
| Output Receptacle Details                     | Hardwire input and output connections are mounted on a detachable PDU backplate with bypass switch to enable hot-swappable power module replacement   |
| Output Circuit Breakers                       | Low voltage 20A breakers on the transformer module protect 4 5-15/20R outlets each; Low voltage 15A breakers protect 2 5-15/20R outlets each  |
| Output AC Waveform (AC Mode)                  | Pure Sine wave  |
| Output AC Waveform (Battery Mode)             | Pure Sine wave  |
| Nominal Output Voltage(s) Supported           | 120V; 208V; 240V  |
| Output Receptacles                            | (4) 5-15R; (8) 5-15/20R; (1) L6-30R; Hardwire   |

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|--|---|
| Individually Controllable Load Banks         | No  |
| <b>BATTERY</b>                               |   |
| Battery Type                                 | Valve Regulated Lead Acid (VRLA)  |
| Runtime Full Load (min.)                     | 2 min. (5400W)  |
| Runtime Half Load (min.)                     | 8.5 min. (2700W)  |
| Expandable Runtime                           | Yes   |
| External Battery Pack Compatibility          | BP192V1037C-1PH; &nbsp;<a class="productLink" href="//tripplite.eaton.com/External-192V-3U-Rack-Tower-Battery-Pack-select-Tripp-Lite-UPS-Systems~BP192V12-3U">BP192V12-3U</a>&nbsp;; BP192V1407C-1PH; BP192V557C-1PH; &nbsp;<a class="productLink" href="//tripplite.eaton.com/external-192v-tower-battery-pack-for-select-tripp-lite-ups-systems-su5000rt4u-su6000rt4u-su8000rt4u~BP192V787C-1PH">BP192V787C-1PH</a>&nbsp;; &nbsp;<a class="productLink" href="//tripplite.eaton.com/External-192V-2U-Rackmount-Battery-Pack-UPS-Systems~BP192V5RT2U">BP192V5RT2U</a>&nbsp;; (limit 1) |
| DC System Voltage (VDC)                      | 192   |
| Battery Recharge Rate (Included Batteries)   | 6 hours from 10% to 90% (typical, full load discharge)  |
| Battery Access                               | Front panel battery access door   |
| Internal UPS Replacement Battery Cartridge   | &nbsp;<a class="productLink" href="//tripplite.eaton.com/4U-UPS-Replacement-192VDC-Battery-Cartridge-1-set-of-16-Tripp-Lite-SmartOnline-UPS~RBC5-192">RBC5-192</a>&nbsp;;   |
| Battery Replacement Description              | Hot-swappable, user replaceable internal batteries  |
| <b>VOLTAGE REGULATION</b>                    |   |
| Voltage Regulation Description               | Online, double-conversion power conditioning  |
| Overvoltage Correction                       | Corrects overvoltages as high as 300V (<90% load) and 280V (full load)  |
| Undervoltage Correction                      | Corrects undervoltages as low as 100 (<50% load) and 155V (full load); derates linearly   |
| <b>USER INTERFACE, ALERTS &amp; CONTROLS</b> |   |
| Front Panel LCD Display                      | Selectable LCD display with scroll and selection buttons enables UPS control and detailed monitoring options; LED/LCD panel rotates for viewing in rack/tower formats (see manual)  |
| Switches                                     | Includes main power off/on switch, plus 2 switches to set and execute scrollable LCD functions. A manual bypass switch featured on the detachable PDU allows for complete removal of the UPS during routine maintenance without disrupting power to connected loads   |
| Alarm Cancel Operation                       | Alarm cancel switch   |
| Audible Alarm                                | Unique audible alarms for all major UPS, environmental and power conditions (see manual)  |
| LED Indicators                               | 6 LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status; LCD screen offers additional information and control options  |
| <b>SURGE / NOISE SUPPRESSION</b>             |   |
| UPS AC Suppression Joule Rating              | 2595  |
| UPS AC Suppression Response Time             | Instantaneous   |
| EMI / RFI AC Noise Suppression               | Yes   |
| <b>PHYSICAL</b>                              |   |

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|---|---|
| Primary Form Factor   | Rackmount   |
| Rack Height   | 6U  |
| Cooling Method  | Fans  |
| Included Mounting Accessory Description                         | 4 post rackmount installation accessories included (2 sets)   |
| Installation Form Factors Supported with Included Accessories   | 4 post 19 inch rackmount  |
| Installation Form Factors Supported with Optional Accessories   | 2 post rackmount ( <a href="#">2-Post-Rack-Mount-Installation-Kit-3U-Larger-UPS-Transformer-Battery-Pack-Components~2POSTRMKITHD</a> ); Tower ( <a href="#">2U-9U-Tower-Stand-Kit-select-Rack-Mount-UPS-Systems~2-9USTAND</a> ) |
| Maximum Device Depth (cm)                                       | 55.37   |
| Maximum Device Depth (in.)                                      | 21.8  |
| Maximum Device Depth (mm)                                       | 554   |
| Minimum Required Rack Depth (cm)                                | 63.50   |
| Minimum Required Rack Depth (inches)                            | 25  |
| Minimum Required Rack Depth with External Battery Pack (cm)     | 74  |
| Minimum Required Rack Depth with External Battery Pack (in.)    | 29  |
| Minimum Required Rack Depth without External Battery Pack (cm)  | 65  |
| Minimum Required Rack Depth without External Battery Pack (in.) | 25.7  |
| Optional Mounting Accessory Notes                               | 2 sets of <a href="#">2-Post-Rack-Mount-Installation-Kit-3U-Larger-UPS-Transformer-Battery-Pack-Components~2POSTRMKITHD</a> ; required for 2 post rackmount installation of separate UPS and transformer components             |
| Primary UPS Depth (mm)  | 526   |
| Primary UPS Height (mm)   | 174   |
| Primary UPS Width (mm)  | 445   |
| Shipping Dimensions (hwd / in.)                                 | 22.20 x 23.60 x 29.10   |
| Shipping Dimensions (hwd / cm)                                  | 56.39 x 59.94 x 73.91   |
| Shipping Weight (lbs.)  | 232.10  |
| Shipping Weight (kg)  | 105.28  |
| Stepdown Transformer Dimensions (hwd / cm)                      | 8.89 x 44.45 x 55.37  |
| Stepdown Transformer Dimensions (hwd / in.)                     | 3.5 x 17.5 x 21.8   |
| Stepdown Transformer Height (mm)                                | 89  |
| Stepdown Transformer Width (mm)                                 | 445   |
| Stepdown Transformer Depth (mm)                                 | 554   |
| Stepdown Transformer Weight (kg)                                | 32.93   |

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|---|--|
| Stepdown Transformer Weight (lbs.)            | 72.6   |
| UPS Housing Material                          | Steel  |
| UPS Power Module Dimensions (hwd, cm)         | 17.40 x 44.45 x 52.58  |
| UPS Power Module Dimensions (hwd, in.)        | 6.85 x 17.5 x 20.7   |
| UPS Power Module Weight (kg)                  | 52.71  |
| UPS Power Module Weight (lbs.)                | 116.2  |
| Unit Dimensions (hwd / in.)                   | 10.050 x 17.500 x 21.800   |
| Unit Weight (lbs.)                            | 188.800  |
| Unit Weight (kg)                              | 85.64  |
| <b>ENVIRONMENTAL</b>                          |  |
| Operating Temperature Range                   | 32° to 104°F (0° to 40°C)  |
| Storage Temperature Range                     | 5° to 122°F (-15° to 50°C)   |
| Relative Humidity                             | 0 to 95%, non-condensing   |
| AC Mode BTU / Hr. (Full Load)                 | 1767   |
| AC Economy Mode BTU / Hr. (Full Load)         | 768  |
| Battery Mode BTU / Hr. (Full Load)            | 2279   |
| AC Mode Efficiency Rating (100% Load)         | 90%  |
| AC Economy Mode Efficiency Rating (100% Load) | 96%  |
| Operating Elevation (ft.)                     | Up to 6500 ft.   |
| Audible Noise                                 | 60 dBA at front side 1 meter   |
| Operating Elevation (m)                       | 0-2000m  |
| <b>COMMUNICATIONS</b>                         |  |
| Network Management Cards                      | SNMPWEBCARD; <a href="https://tripplite.eaton.com/Web-Management-Accessory-Card-SmartPro-SmartOnline-UPS-Systems-TLNETCARD">TLNETCARD</a> ; <a href="https://tripplite.eaton.com/Web-Management-Accessory-Card-WEBCARDLX">WEBCARDLX</a> ; <a href="https://tripplite.eaton.com/MODBUS-Management-Accessory-Card-UPS-Remote-Monitoring-Control-MODBUSCARD">MODBUSCARD</a> ; <a href="https://tripplite.eaton.com/Programmable-Relay-I-O-Card-RELAYIOCARD">RELAYIOCARD</a> |
| Network Monitoring Port Description           | Additional contact closure support with optional RELAYIOCARD and RELAYIOMINI interface cards. RELAYIOMINI installation requires removal of panel containing USB ports  |
| PowerAlert Software                           | For local monitoring via the UPS's built-in communication ports, download PowerAlert software at <a href="https://tripplite.eaton.com/products/power-alert">https://tripplite.eaton.com/products/power-alert</a>   |
| Communications Cable                          | USB, DB9 serial and EPO cables included  |
| WatchDog Compatibility                        | Yes  |
| Network Management Card Description           | Network management card optional   |

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|---|---|
| Communications Interface                                    | DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface; USB (HID enabled)   |
| <b>LINE / BATTERY TRANSFER</b>                              |   |
| Transfer Time   | No transfer time (0 ms.) in online, double-conversion mode  |
| Transfer Time (Economy Mode)                                | 8ms. typical power failure response in optional economy mode  |
| Low Voltage Transfer to Battery Power (Setpoint)            | 156V (full load) / 100V (50% load or less, derates linearly)  |
| High Voltage Transfer to Battery Power (Setpoint)           | 280V (full load) / 300V (90% load or less)  |
| <b>FEATURES &amp; SPECIFICATIONS</b>                        |   |
| Cold Start (Startup in Battery Mode During a Power Failure) | Cold-start operation supported  |
| High Availability UPS Features                              | Auto Probe Monitoring (requires WEBCARDLX); Automatic inverter bypass; Hot swappable batteries; Hot swappable UPS power module; Manual bypass switch; Remote management; Surge/noise protection; Zero transfer time |
| Green Energy-Saving Features                                | High efficiency economy mode operation; Support for daily startup and shutoff; Schedulable daily hours of economy mode operation  |
| <b>APPLICATIONS</b>   |   |
| UPS Applications  | Mission Critical Applications   |
| <b>STANDARDS &amp; COMPLIANCE</b>                           |   |
| Product Certifications                                      | IEC 61000; CSA (Canada); UL 1778  |
| Product Compliance  | RoHS; FCC Part 15 Class A (USA)   |
| <b>WARRANTY &amp; SUPPORT</b>                               |   |
| Product Warranty Period (Worldwide)                         | 2-year limited warranty   |
| Connected Equipment Insurance (U.S., Canada & Puerto Rico)  | \$250,000 & <a href="//tripplite.eaton.com/support/insurance-policy">Ultimate Lifetime Insurance</a>  |