

## SmartOnline 120V 208/240V 16kVA UPS – On-Line Double Conversion, 14.4kW, N+1, 14U, Network Option, TAA

MODEL NUMBER: SU16KRT-1TFTAA



16kVA N+1 UPS protects connected equipment against damage due to power outages, voltage fluctuations and transient surges.

### Features

#### Protects Mission-Critical Rack-Mounted Equipment against Damage, Downtime and Data Loss

This TAA-compliant UPS system protects connected equipment against damage, downtime and data loss due to power outages, voltage fluctuations and transient surges. Featuring a 14,400W capacity, high 0.9 power factor, true on-line operation with pure sine wave output and zero transfer time to battery, the SmartOnline® SU16KRT-1TFTAA includes two 3U UPS power modules, two 3U external battery packs, a 2U step-down transformer and a parallel PDU with maintenance switch. Using the step-down transformer, the N+1 UPS system can support both low- and high-voltage equipment.

#### The Complete Power Protection Solution for Advanced Networking Applications

Recommended for data centers, computer rooms, network closets and other areas with mission-critical equipment, the SU16KRT-1TFTAA actively converts raw incoming AC power to DC and then re-converts it back to regulated, filtered AC output with a pure sine wave, completely isolating connected components from all power problems. It features a 3-wire single-phase hardwire input (3-wire, single phase) and 22 total outlets—two NEMA L6-30R (208/240V), eight C19 (208/240V), eight NEMA 5-15/20R (120V) and four NEMA 5-15R (120V).

#### External Batteries Supply Reliable Backup with Expandable Runtime Options

UPS battery backup keeps connected equipment operational through short power failures, and provides time to save data and perform an orderly system shutdown in case of a prolonged blackout. The external battery packs provide 13.5 minutes of support at half load and 5.5 minutes at full load. During normal operation, incoming utility power keeps the battery fully charged so backup power will be available when needed. For mission-critical applications demanding continuous uptime, the 16kVA UPS can provide expandable runtime with optional external battery packs, such as Tripp Lite's field-replaceable, hot-swappable BP240V10RT3UTAA. A battery-independent restart ensures automatic UPS power-up after lengthy power outages, even with expired batteries.

#### Easily Hot-Swappable to Avoid Expensive Service Calls and Downtime

With its parallel PDU, the SU16KRT-1TFTAA with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. It offers automatic N+1 redundancy at load levels up to 8kVA and non-redundant operation from 8kVA all the way up to 16kVA. In bypass mode, the PDU passes power to equipment without the use of the power and battery modules, allowing them to be removed while keeping your application in operation. When making

### Highlights

- Zero transfer time between AC power and battery for uninterrupted operation
- PDU keeps essential equipment powered during hot-swap battery replacement or repair
- Delivers complete N+1 redundancy when used with loads up to 8kVA
- Step-down transformer supports power protection of low- and high-voltage components
- Complies with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases

### Applications

- Advanced networking applications in data centers, computer rooms, network closets and rugged industrial locations

### Package Includes

- (2) SU8000RT3UPMTAA hot-swappable UPS power modules
- SUPDMB20KTAA parallel PDU w/maintenance bypass switch
- (2) BP240V10RT3UTAA external battery packs
- SU6000XFMR2UTAA 208/240V to 120V transformer
- USB cable
- DB9 cable
- EPO cable
- Rack-mounting hardware
- Owner's manual



repairs or replacing a battery, no lengthy service calls or downtime are necessary.

**Intuitive Front-Panel Interface for Convenient UPS Operation and Monitoring**

Front-panel LEDs indicate line power, online mode, bypass mode, on-battery, charger and AC output status at a glance. The LCD readout with scroll controls supports visual monitoring of a variety of control options to support advanced UPS settings and configurations. The panel rotates for comfortable viewing in rack-mount or tower configuration.

**Optional WEBCARDLX Network Interface Offers 24/7 Access**

An accessory slot accommodates the optional Java-free HTML5-based WEBCARDLX interface, which enables full remote access for site power and UPS status monitoring, configuration, control and email notifications via secure web browser, SNMP, telnet or SSH. It supports 10/100 Mbps auto-sensing for optimum communication with an Ethernet network. Automated alerts help prevent accidental overloads, power loss and downtime. (NOTE: Applications utilizing any supported network management card option, require the installation of two of the same model network card – install one card per included UPS power module).

**Advanced Communications Ports for Protecting Valuable Data**

USB and DB9 ports (cables are included) enable data-saving unattended shutdown of connected systems when used with Tripp Lite’s free downloadable PowerAlert® software. Capabilities include detailed monitoring of load levels, self-test data and utility power conditions.

**Versatile Installation Options to Match Your Setup**

Hardware is included for mounting the 16kVA UPS system in 14U of space in an EIA-standard 19-inch 4-post rack. Use five optional 2POSTRMKITHD kits for 2-post rack mounting or two optional 2-9USTAND kits for mounting in an upright tower position.

**TAA-Compliant UPS for GSA Schedule Purchases**

The SU16KRT-1TFTAA is compliant with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases.

**2-Year Warranty and \$250K Ultimate Lifetime Insurance**

The SU16KRT-1TFTAA comes with a 2-year warranty and \$250,000 of Ultimate Lifetime Insurance for any connected components damaged by a power surge (U.S., Canada and Puerto Rico only).

## Specifications

| OVERVIEW                      |  |
|-------------------------------|--|
| UPC Code                      | 037332224491   |
| OUTPUT                        |  |
| Output Volt Amp Capacity (VA) | 16000  |
| Output kVA Capacity (kVA)     | 16.00  |
| Output Watt Capacity (Watts)  | 14400  |
| Output kW Capacity (kW)       | 14.40  |
| 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 load levels are reduced to 95% or less |
| Power Factor                  | 0.9  |
| Crest Factor                  | 3:1  |



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| Nominal Output Voltage(s) Supported        | 120V; 208V; 240V  |
| 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 (Battery Mode)   | +/- 2%  |
| Output Receptacles                         | (4) 5-15R; (8) 5-15/20R; (2) L6-30R; (8) C19  |
| Output Receptacle Details                  | Total 120V output is limited to 4992 watts for 208V input and 5760 watts for 240V input. Additional 120V capacity is available by adding a second SU6000XFMR2U step-down transformer.   |
| Output Circuit Breakers                    | POWER MODULE: Two built-in 30A breakers protect one L6-30R outlet each, Eight built-in 20A breakers protect one C19 outlet each; TRANSFORMER MODULE: Two 15A breakers protect 2 5-15R outlets each, Two 20A breakers protect 4 5-15/20R outlets each      |
| Output AC Waveform (AC Mode)               | Pure Sine wave  |
| Output AC Waveform (Battery Mode)          | Pure Sine wave  |
| Individually Controllable Load Banks       | No  |
| <b>INPUT</b>                               |   |
| Rated input current (Maximum Load)         | 88.4A (208V), 76.6A (240V)  |
| Nominal Input Voltage(s) Supported         | 208V AC; 240V AC  |
| UPS Input Connection Type                  | Hardwire  |
| UPS Input Connection Description           | 3 wire single phase input (L1, L2, G)   |
| Recommended Electrical Service             | 100A @ 208V, or 240V (L1, L2, G)  |
| Input Phase                                | Single-Phase  |
| <b>BATTERY</b>                             |   |
| Full Load Runtime (min.)                   | 5.5 minutes (14,400 watts)  |
| Half Load Runtime (min.)                   | 13.5 minutes (7200 watts)   |
| Expandable Battery Runtime                 | Runtime is expandable with external battery packs   |
| External Battery Pack Compatibility        | BP240V10RT3UTAA;&nbsp;<a class="productLink" href="//www.tripplite.com/External-240V-Tower-Battery-Pack-for-use-with-Select-Tripp-Lite-UPS-Systems-BP240V787C-1PH~BP240V787C-1PH">BP240V787C-1PH</a>&nbsp;  |
| Expandable Runtime Description             | For best results, add external batteries in multiples of two so that both included 8kVA power modules have an equal number and type of connected battery packs  |
| DC System Voltage (VDC)                    | 240   |
| Battery Recharge Rate (Included Batteries) | Less than 6 hours from 10% to 90% (typical, full load discharge)  |
| Battery Replacement Description            | Hot-swappable, user replaceable external battery packs  |



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| Expandable Runtime  | Yes  |
| <b>VOLTAGE REGULATION</b>                                     |  |
| Voltage Regulation Description                                | 2% output voltage regulation in standard online, double-conversion mode  |
| Overvoltage Correction  | Corrects overvoltages up to 300V   |
| Undervoltage Correction                                       | Corrects undervoltages as low as 100V  |
| <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; LCD Display supports ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH and PORTUGUESE (see manual)  |
| Switches  | 2 Switches control off/on power status and alarm-cancel/self-test operation; 2 additional switches support set and execute scrolling LCD functions; bundled PDU includes bypass switch to enable hot-swap UPS power module replacement   |
| 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, 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                               | 2565   |
| UPS AC Suppression Response Time                              | Instantaneous  |
| EMI / RFI AC Noise Suppression                                | Yes  |
| <b>PHYSICAL</b>   |  |
| Included Mounting Accessory Description                       | 5 sets of adjustable 4 post rack rails included (one for each included 2U/3U module)   |
| Installation Form Factors Supported with Included Accessories | 4 post 19 inch rackmount   |
| Installation Form Factors Supported with Optional Accessories | 2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)   |
| Optional Mounting Accessory Notes                             | Qty 5    <a class="productLink" href="//www.tripplite.com/2-Post-Rack-Mount-Installation-Kit-3U-Larger-UPS-Transformer-Battery-Pack-Components~2POSTRMKITHD">2POSTRMKITHD</a>&nbsp;   required for 2 post rackmount installation; Qty 2    <a class="productLink" href="//www.tripplite.com/2U-9U-Tower-Stand-Kit-select-Rack-Mount-UPS-Systems~2-9USTAND">2-9USTAND</a>&nbsp;   required for tower installation |
| Primary Form Factor   | Rackmount  |
| UPS Power Module Dimensions (hwd, in.)                        | 5.14 x 17.50 x 25.82   |
| UPS Power Module Dimensions (hwd, cm)                         | 13.06 x 44.45 x 65.58  |
| Rack Height   | 14U  |
| Maximum Device Depth (in.)                                    | 33   |
| Minimum Required Rack Depth (inches)                          | 38   |



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|--|--|
| Maximum Device Depth (cm)                    | 83.82  |
| Minimum Required Rack Depth (cm)             | 96.52  |
| UPS Power Module Weight (lbs.)               | 43   |
| UPS Power Module Weight (kg)                 | 19.50  |
| UPS Dimensions Details                       | Includes 2 SU8000RT3UPMTAA UPS/Power modules, 2 BP240V10RT3UTAA Battery packs, 1 SU6000XFMR2UTAA transformer and SUPDMB20KTAA parallel bypass PDU; Listed weights and dimensions for UPS/Power module, battery pack and transformer each refer to a single unit; MAXIMUM DEVICE DEPTH specification refers to the whole UPS installed depth with parallel bypass PDU installed |
| Stepdown Transformer Dimensions (hwd / in.)  | 3.50 x 17.50 x 21.80   |
| Stepdown Transformer Dimensions (hwd / cm)   | 8.89 x 44.45 x 55.37   |
| Stepdown Transformer Weight (lbs.)           | 73   |
| Stepdown Transformer Weight (kg)             | 33.11  |
| Included Battery Pack Dimensions (hwd / in.) | 5.25 x 17.50 x 25.00   |
| Included Battery Pack Weight (lbs.)          | 159  |
| Included Battery Pack Weight (kg)            | 72.12  |
| Shipping Dimensions (hwd / in.)              | 31.50 x 40.00 x 51.00  |
| Shipping Dimensions (hwd / cm)               | 80.01 x 101.60 x 129.54  |
| Shipping Weight (lbs.)                       | 678.00   |
| Shipping Weight (kg)                         | 307.54   |
| Cooling Method                               | Fans   |
| UPS Housing Material                         | Steel  |
| Maximum Device Depth (mm)                    | 838  |
| Stepdown Transformer Height (mm)             | 89   |
| Stepdown Transformer Width (mm)              | 445  |
| Stepdown Transformer Depth (mm)              | 554  |
| Primary UPS Height (mm)                      | 131  |
| Primary UPS Width (mm)                       | 445  |
| Primary UPS Depth (mm)                       | 656  |
| <b>ENVIRONMENTAL</b>                         |  |
| Operating Temperature Range                  | +32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius.   |
| Storage Temperature Range                    | +5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius.  |
| Relative Humidity                            | 0 to 95%, non-condensing   |
| AC Mode BTU / Hr. (Full Load)                | 5464   |
| Battery Mode BTU / Hr. (Full Load)           | 4864   |



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|---|---|
| AC Mode Efficiency Rating (100% Load)                       | 90%   |
| Operating Elevation (ft.)                                   | 0-3000m (0 to 10,000 ft.)   |
| Audible Noise   | 60 dBA at front side 1 meter  |
| Operating Elevation (m)                                     | 0-3000 m  |
| <b>COMMUNICATIONS</b>                                       |   |
| Communications Interface                                    | USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface   |
| Network Management Cards                                    | SNMPWEBCARD; TLNETCARD; WEBCARDLX; MODBUSCARD;&nbsp;<a class="productLink" href="//www.tripplite.com/Programmable-Relay-I-O-Card-RELAYIOCARD">RELAYIOCARD</a>&nbsp;   |
| Network Monitoring Port Description                         | Applications utilizing any supported network management card option, require the installation of two of the same model network card – install one card per included UPS power module; RELAYIOMINI installation requires removal of panel containing USB ports on each included UPS power module |
| PowerAlert Software   | For local monitoring via the UPS's built-in communication ports, download PowerAlert Local software at <a href="http://www.tripplite.com/poweralert">http://www.tripplite.com/poweralert</a>  |
| Communications Cable  | USB, DB9 serial and EPO cables included   |
| WatchDog Compatibility                                      | Supports Watchdog application, OS and hard-reboot restart options for remote applications   |
| <b>LINE / BATTERY TRANSFER</b>                              |   |
| Transfer Time   | No transfer time (0 ms.) in online, double-conversion mode  |
| Low Voltage Transfer to Battery Power (Setpoint)            | 100V  |
| High Voltage Transfer to Battery Power (Setpoint)           | 300V  |
| <b>SPECIAL FEATURES</b>                                     |   |
| Cold Start (Startup in Battery Mode During a Power Failure) | Cold-start operation supported  |
| High Availability UPS Features                              | Automatic inverter bypass; Hot swappable batteries; Hot swappable UPS power module; Manual bypass switch  |
| Green Energy-Saving Features                                | Support for daily startup and shutoff   |
| <b>CERTIFICATIONS</b>                                       |   |
| UPS Certifications  | Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances); TAA Compliant; Tested to CSA (Canada); Tested to UL1778 (USA)   |
| UPS Certification Details                                   | IEC 61000-4-5 1995 B Surge Immunity   |
| <b>WARRANTY</b>   |   |
| Product Warranty Period (Worldwide)                         | 2-year limited warranty   |
| Connected Equipment Insurance (U.S., Canada & Puerto Rico)  | \$250,000&nbsp;<a class="insuranceLink" href="//www.tripplite.com/support/insurance-policy">Ultimate Lifetime Insurance</a>&nbsp;   |



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Tripp Lite uses primary and third-party agencies to test its products for compliance with standards. See a list of Tripp Lite's testing agencies:

<https://www.tripplite.com/products/product-certification-agencies>