

## SmartOnline 240 & 120V 20kVA 18kW Double-Conversion UPS in 25U enclosure, Pre-installed Network Card, USB, DB9, Bypass, Hardwire

MODEL NUMBER: SU20KRTHWTFASSM



### Description

Tripp Lite SU20KRTHWTFASSM 20,000VA / 20kVA / 18,000 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 16U rack/tower configuration pre-assembled into a Tripp Lite 25U rack enclosure. This system delivers complete N+1 redundancy when used at loads up to 50%, and non-redundant operation at loads between 50 and 100%. Fault-tolerant auto-bypass prevents unexpected service interruptions during UPS overload or internal fault conditions. Included parallel PDU with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. Enhanced availability, fault tolerance and simple hot-swap replacement options make this UPS ideal for advanced networking applications in data centers, computer rooms, network closets and rugged industrial locations.

### Features

- Tripp Lite SU20KRTHWTFASSM 20kVA, 20,000VA / 18,000 watt on-line, double-conversion UPS system in a 16U total rack/tower configuration (max output de-rates to 18kVA / 16kW when operated at 208V nominal input voltage)
- Pre-built into a 25U SmartRack enclosure with 6U of open rack space able to accommodate two optional additional BP240V10RT3U external battery packs
- Offers enhanced fault-tolerance and reliability with N+1 configuration support and hot-swappable whole UPS replacement options
- Unique configuration ties input, output and data connections of two standard 10kVA UPS systems via detachable parallel PDU to offer 20kVA non-redundant operation and automatic N+1 redundancy at load levels of 50% and lower
- Included Parallel PDU with manual bypass switching enables hot-swappable replacement of either power module at any supported load level, with no interruption to connected equipment
- Hardwire input and output connections
- Fault tolerant electronic bypass maintains utility output during a variety of UPS fault conditions
- Full-time active power conditioning provides clean, continuous dual-conversion AC output free of voltage fluctuations, power interruptions and line noise
- 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

### Highlights

- 20kVA / 20,000VA / 18,000W on-line double-conversion UPS; 0.9 power factor; Extended runtime
- 16U configuration built into a 25U rack enclosure; 9 open rack-spaces for battery packs or other network items
- Hot-swappable power and battery modules; Maintenance bypass switch; N+1 fault tolerance is available at loads up to 50%
- USB, RS232 & EPO ports; (2) Pre-installed WEBCARDLX network interface card
- Hardwire 240V 60Hz (3 wire) input; 240 & 120V 60Hz hardwire output

### Package Includes

- Two SU10000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- One SU20KXFMRT4U 120V transformer
- SUPDMB20KHW parallel PDU with Bypass switch
- Pre-installed in a Tripp Lite 25U rack enclosure
- USB, DB9 and EPO cables



- Maintains full-time sine wave output within 2% of 240/120V nominal at 60Hz during brownouts as low as 100V and overvoltages as high as 300V
- Expandable runtime is supported with optional BP240V10RT3U; BP240V787C-1PH external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- Intelligent battery management system with temperature-compensated charging extends battery life
- Battery independent restart ensures automatic UPS power-up without user interaction after lengthy power outages, even when batteries are expired and require replacement
- Rack / tower configuration installs in 16 total rack spaces (16U)
- USB & Serial ports enable data-saving unattended shutdown when used with Tripp Lite's PowerAlert software, available via FREE download from [www.tripplite.com/poweralert](http://www.tripplite.com/poweralert)
- HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X
- Pre-installed Network Management Card (one per 10kVA power module) offers communications and control via secure remote web and network interfaces
- Supports Emergency Power Off (EPO) via built-in interface
- Front panel LEDs and LCD readout with scroll controls and password option supports visual monitoring of all major UPS functions and advanced UPS settings for charge level, nominal voltage selection, frequency conversion and other operational parameters
- LED / LCD display panel rotates for viewing in rackmount or tower configurations
- Network-grade AC surge and noise suppression
- Industrial mode option (factory preset) enables supports high current startup loads by momentarily switching to bypass mode in response to short duration overload conditions
- External battery packs are field replaceable and hot swappable
- \$250,000 Ultimate Lifetime Insurance (U.S., Canada, and Puerto Rico only)

## Specifications

| OVERVIEW                           |  |
|------------------------------------|--|
| UPC Code                           | 037332180896   |
| UPS Type                           | On-Line  |
| INPUT                              |  |
| Rated input current (Maximum Load) | 98A  |
| 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     | 120A @ 200V-240V (L, N, PE), or 125A @ 200V, 208V, or 240V (L1, L2, G) |
| Input Phase                        | Single-Phase   |
| OUTPUT                             |  |
| Output Volt Amp Capacity (VA)      | 20000  |
| Output Capacity (kVA)              | 20   |



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| Output Watt Capacity (Watts)               | 18000   |
| Output kW Capacity (kW)                    | 18  |
| Output Capacity Details                    | Output de-rates to 18kVA / 16kW with 208V nominal input voltage; 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   |
| Nominal Voltage Details                    | Included step-down transformer supports 120V output   |
| 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 AC Waveform (AC Mode)               | Sine wave   |
| Output AC Waveform (Battery Mode)          | Pure Sine wave  |
| Nominal Output Voltage(s) Supported        | 120V; 240V  |
| Output Receptacles                         | Hardwire  |
| Individually Controllable Load Banks       | No  |
| <b>BATTERY</b>                             |   |
| Battery Type                               | Valve Regulated Lead Acid (VRLA)  |
| Full Load Runtime (min.)                   | 4.3 minutes (18,000 watts)  |
| Half Load Runtime (min.)                   | 12.5 minutes (9000 watts)   |
| Expandable Battery Runtime                 | Runtime is expandable with external battery packs   |
| Expandable Runtime                         | Yes   |
| Expandable Runtime Description             | For best results, add external batteries in multiples of two so that both included 10kVA power modules have an equal number and type of connected battery packs   |
| External Battery Pack Compatibility        | &nbsp;<a class="productLink" href="//www.tripplite.com/external-240v-tower-battery-pack-tripp-lite-3-phase-ups-systems-3u-BP240V10RT3U">BP240V10RT3U</a>&nbsp;&nbsp;&nbsp;<a class="productLink" href="//www.tripplite.com/external-240v-battery-pack-select-tripp-lite-ups-systems-built-in-charger-BP240V787C-1PH">BP240V787C-1PH</a>&nbsp;&nbsp;&nbsp;                               |
| DC System Voltage (VDC)                    | 240   |
| Battery Recharge Rate (Included Batteries) | 6 hours from 10% to 90% (typical, full load discharge)  |
| Battery Replacement Description            | Hot-swappable, user replaceable external battery packs  |
| <b>VOLTAGE REGULATION</b>                  |   |
| Voltage Regulation Description             | 2% output voltage regulation in standard online, double-conversion mode   |



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| 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>                              |   |
| Primary Form Factor                          | Rackmount   |
| Cooling Method                               | Fans  |
| Included Battery Pack Dimensions (hwd / in.) | 5.25 x 17.5 x 25  |
| Included Battery Pack Weight (lbs.)          | 158.7   |
| Included Battery Pack Weight (kg)            | 71.99   |
| Maximum Device Depth (cm)                    | 82.55   |
| Maximum Device Depth (in.)                   | 32.5  |
| Maximum Device Depth (mm)                    | 826   |
| Primary UPS Depth (mm)                       | 656   |
| Primary UPS Height (mm)                      | 131   |
| Primary UPS Width (mm)                       | 445   |
| Rack Height                                  | 14U   |
| Shipping Dimensions (hwd / cm)               | 132.08 x 68.58 x 127.00   |
| Shipping Dimensions (hwd / in.)              | 52.00 x 27.00 x 50.00   |
| Shipping Weight (kg)                         | 416.40  |
| Shipping Weight (lbs.)                       | 918.00  |
| Stepdown Transformer Dimensions (hwd / cm)   | 17.78 x 44.45 x 74.42   |



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| Stepdown Transformer Dimensions (hwd / in.) | 7 x 17.5 x 29.3   |
| Stepdown Transformer Height (mm)            | 178   |
| Stepdown Transformer Width (mm)             | 445   |
| Stepdown Transformer Depth (mm)             | 744   |
| Stepdown Transformer Weight (kg)            | 127.50  |
| Stepdown Transformer Weight (lbs.)          | 281.1   |
| Unit Dimension Details                      | Includes 2 SU10000RT3UPM UPS/Power modules, 2 BP240V10RT3U Battery packs, 1 SU20KXFMRT4U transformer and SUPDMB20KHW 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 |
| UPS Housing Material                        | Steel   |
| UPS Power Module Dimensions (hwd, cm)       | 13.06 x 44.45 x 65.58   |
| UPS Power Module Dimensions (hwd, in.)      | 5.14 x 17.5 x 25.82   |
| UPS Power Module Weight (kg)                | 20.00   |
| UPS Power Module Weight (lbs.)              | 44.1  |
| <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)               | 6830  |
| Battery Mode BTU / Hr. (Full Load)          | 9185  |
| AC Mode Efficiency Rating (100% Load)       | 87%   |
| 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>                       |   |
| Network Management Cards                    | &nbsp;<a class="productLink" href="//www.tripplite.com/Web-Management-Accessory-Card-WEBCARDLX">WEBCARDLX</a>&nbsp;   |
| Network Monitoring Port Description         | Additional contact closure support with optional 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 Local software at <a href="https://www.tripplite.com/poweralert">https://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   |
| Network Management Card Description         | Network management card included  |



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| Communications Interface                                    | DB9 Serial; EPO (emergency power off); (2) Pre-installed network card; 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  |
| Low Voltage Transfer to Battery Power (Setpoint)            | 100V  |
| High Voltage Transfer to Battery Power (Setpoint)           | 300V  |
| <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 (included); Automatic inverter bypass; Expandable battery backup; Hot swappable UPS power module; Hot swappable batteries; Manual bypass switch; N+1 Redundant up to 50% capacity; On-Line/Double-Conversion; Remote management; Sine wave output; Surge/noise protection; Zero transfer time |
| Green Energy-Saving Features                                | Support for daily startup and shutoff   |
| <b>STANDARDS &amp; COMPLIANCE</b>                           |   |
| UPS Certifications  | Tested to UL1778 (USA); Tested to CSA (Canada); Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances)  |
| 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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