

SmartOnline 208/240 & 120V 20kVA 18kW, Double-Conversion UPS, N+1, 14U, Network Card Slot, USB, DB9, Bypass Switch

MODEL NUMBER: SU20KRT-1TF



Description

Tripp Lite SU20KRT-1TF 20,000VA / 20kVA / 18,000 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 14U rack/tower configuration. This system delivers complete N+1 redundancy when used at loads up to 10kVA, and non-redundant operation at loads between 10 and 20kVA. 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 SU20KRT-1TF 20kVA, 20,000VA / 18,000 watt on-line, double-conversion UPS system in 14U total rack/tower configuration
- Unique configuration offers 20kVA non-redundant operation and automatic N+1 redundancy at load levels of 10kVA and under
- Included Parallel PDU with manual bypass switch enables hot-swap replacement of power modules at any supported load level
- Hardwire input; 2 L6-30R (208/240v), 8 C19 (208/240v), 8 5-15/20R (120v) and 4 5-15R (120v) outlets
- Maintains full-time sine wave output within 2% of selectable 200/208/220/230/240V & 120V nominal
- Compatible with Tripp Lite UPS management card options TLNETCARD, WEBCARDLX, SNMPWEBCARD, MODBUSCARD and RELAYIOCARD (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)
- Expandable runtime with optional external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration

Highlights

- 20kVA / 20,000VA / 18,000W on-line double-conversion UPS; 0.9 power factor
- 208/120V or 240/120V 60Hz output
- Hot-swap power and battery modules, N+1 fault tolerance at loads up to 10kVA
- USB, RS232 & EPO ports; slot for network management card options
- Front panel LEDs with detailed LCD monitoring and control screen
- Expandable runtime with optional external battery packs
- Hardwire input (3 wire); L6-30R, C19, 5-15/20R & 5-15R outlets

Package Includes

- Two SU10000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- One SU6000XFMR2U 208/240V to 120V transformer
- SUPDMB20K parallel PDU with Bypass switch
- 4-post rackmount installation kit
- USB, DB9 & EPO cables



Software (see manual)

- Battery independent restart ensures automatic UPS power-up after lengthy power outages, even with expired batteries
- Intelligent battery management system with temperature-compensated charging extends battery life
- HID-compliant USB interface
- 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
- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (6 required)
- Optional 2-9USTAND supports upright tower placement (2 required)
- Supports Emergency Power Off (EPO) via built-in interface
- Front panel LEDs and LCD readout with scroll controls
- LED / LCD display panel rotates for viewing in rackmount or tower configurations
- External battery packs are field replaceable and hot swappable

Specifications

| OVERVIEW | |
|------------------------------------|--|
| UPC Code | 037332158260 |
| UPS Type | On-Line |
| INPUT | |
| Rated input current (Maximum Load) | 108A (208V), 93.6A (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 | 125A @ 208V, or 240V (L1, L2, G) |
| Input Phase | Single-Phase |
| OUTPUT | |
| Output Volt Amp Capacity (VA) | 20000 |
| Output kVA Capacity (kVA) | 20 |
| Output Watt Capacity (Watts) | 18000 |
| Output kW Capacity (kW) | 18 |
| 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 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 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 |
| Nominal Output Voltage(s) Supported | 120V; 208V; 240V |
| Output Receptacles | (4) 5-15R; (8) 5-15/20R; (2) L6-30R; (8) C19 |
| Individually Controllable Load Banks | No |
| BATTERY | |
| 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 |
| External Battery Pack Compatibility | BP240V10RT3U ; BP240V787C-1PH |
| 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 |
| 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 |
| Expandable Runtime | Yes |
| POWER | |
| 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 |
| VOLTAGE REGULATION | |
| 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 |
| USER INTERFACE, ALERTS & CONTROLS | |
| 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) |
| SURGE / NOISE SUPPRESSION | |
| UPS AC Suppression Joule Rating | 2565 |
| UPS AC Suppression Response Time | Instantaneous |
| EMI / RFI AC Noise Suppression | Yes |
| PHYSICAL | |
| Cooling Method | Fans |
| Included Battery Pack Dimensions (hwd / in.) | 5.25 x 17.5 x 25 |
| Included Battery Pack Weight (kg) | 71.99 |
| Included Battery Pack Weight (lbs.) | 158.7 |
| 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); |
| Maximum Device Depth (cm) | 82.55 |
| Maximum Device Depth (in.) | 32.5 |
| Maximum Device Depth (mm) | 826 |
| Minimum Required Rack Depth (cm) | 96.52 |
| Minimum Required Rack Depth (inches) | 38 |
| Optional Mounting Accessory Notes | Qty 5 2POSTRMKITHD required; Qty 2 2-9USTAND required |
| Primary Form Factor | Rackmount |



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| Primary UPS Depth (mm) | 656 |
| Primary UPS Height (mm) | 131 |
| Primary UPS Width (mm) | 445 |
| Rack Height | 14U |
| Shipping Dimensions (hwd / cm) | 80.01 x 101.60 x 129.54 |
| Shipping Dimensions (hwd / in.) | 31.50 x 40.00 x 51.00 |
| Shipping Weight (kg) | 285.76 |
| Shipping Weight (lbs.) | 630.00 |
| Stepdown Transformer Depth (mm) | 554 |
| 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 Weight (kg) | 32.93 |
| Stepdown Transformer Weight (lbs.) | 72.6 |
| Stepdown Transformer Width (mm) | 445 |
| Unit Dimension Details | Includes 2 SU10000RT3UPM UPS/Power modules, 2 BP240V10RT3U Battery packs, 1 SU6000XFMR2U transformer and SUPDMB20K 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 |
| ENVIRONMENTAL | |
| 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) | 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 |



| COMMUNICATIONS | |
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| Network Management Cards | SNMPWEBCARD TLNETCARD WEBCARDLX MODBUSCARD RELAYIOCARD |
| 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 http://www.tripplite.com/poweralert |
| Communications Cable | USB, DB9 serial and EPO cables included |
| WatchDog Compatibility | Supports Watchdog application, OS and hard-reboot restart options for remote applications |
| Communications Interface | DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface; USB (HID enabled) |
| LINE / BATTERY TRANSFER | |
| 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 |
| SPECIAL FEATURES | |
| Cold Start (Startup in Battery Mode During a Power Failure) | Cold-start operation supported |
| High Availability UPS Features | Automatic inverter bypass; Hot swappable UPS power module; Hot swappable batteries; Manual bypass switch; Auto Probe Monitoring (requires WEBCARDLX); Zero transfer time; On-Line/Double-Conversion |
| Green Energy-Saving Features | Support for daily startup and shutoff |
| STANDARDS & COMPLIANCE | |
| 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 |
| WARRANTY | |
| Product Warranty Period (Worldwide) | 2-year limited warranty |
| Connected Equipment Insurance (U.S., Canada & Puerto Rico) | \$250,000 Ultimate Lifetime Insurance |