

# SmartOnline 208/240V 20kVA On-Line UPS – Double Conversion, 18kW, N+1, 12U, Network Card Option, TAA Compliant

MODEL NUMBER: SU20KRTAA











N+1 20kVA UPS protects connected equipment against damage due to blackouts, brownouts, surges and line noise.

#### **Features**

Protects Mission-Critical Rack-Mounted Equipment against Damage, Downtime and Data LossThis N+1 UPS system protects connected equipment against damage, downtime and data loss due to power outages, voltage fluctuations and transient surges. Featuring an 18,000W capacity, high 0.9 power factor, true on-line operation with pure sine wave output and zero transfer time to battery, the SmartOnline® SU20KRTAA provides the highest level of battery backup and AC power protection for critical server, network and telecom equipment. It offers automatic N+1 redundancy at load levels up to 10kVA and non-redundant operation from 10kVA all the way up to 20kVA.

Reliable, Expandable Battery BackupUPS 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 provides 12.5 minutes of support at half load and 4.3 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 20kVA UPS can provide expandable runtime with optional external battery packs, such as Tripp Lite's field-replaceable, hot-swappable BP240V10RT3UTAA (sold separately). A battery-independent restart ensures automatic UPS power-up after lengthy power outages, even with expired batteries.

Easily Hot-Swappable with No Expensive Service Calls or Downtime NeededWith its parallel PDU, the SU20KRTAA with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. 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 repairs or replacing a battery, no lengthy service calls or downtime are necessary.

Intuitive Front-Panel Interface for Convenient UPS Operation and MonitoringFront-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 AccessAn 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.

Advanced Communications PortsUSB and DB9 ports (cables are included) enable data-saving

#### **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 10kVA
- Optional external batteries provide additional runtime for essential applications
- Complies with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases

### **Applications**

- Delivering perfectly regulated sine wave output to missioncritical equipment
- Protecting connected components from dangerous surges, spikes and line noise
- Keeping equipment operational through short power failures
- Allowing time to save data and safely shut down components in case of a prolonged blackout

#### Package Includes

- (2) SU10KRT3UPMTAA hotswappable UPS power modules
- SUPDMB20KTAA parallel PDU w/maintenance bypass switch
- (2) BP240V10RT3UTAA external battery packs
- USB cable
- DB9 cable



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**Hardware is included for mounting the 20kVA UPS system in 12U of space in an EIA-standard 19-inch 4-post rack. Use four 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 SU20KRTAA is compliant with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases.

2-Year Warranty, \$250K Ultimate Lifetime Insurance and Environmentally Responsible DesignThe SU20KRTAA 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). It's manufactured in compliance with strict RoHS specifications, reflecting Tripp Lite's commitment to environmental responsibility.

- EPO cable
- Rack-mounting hardware
- Owner's manual

## **Specifications**

OVERVIEW		
UPC Code	037332236234	
UPS Type	On-Line	
INPUT		
Rated input current (Maximum Load)	112.2A (200V), 108A (208V), 102A (220V), 97.6A (230V), 93.6A (240V)	
Nominal Input Voltage(s) Supported	200V AC; 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 @ 200V, 208V, or 240V (L1, L2, G)	
Input Phase	Single-Phase	
OUTPUT		
Output Volt Amp Capacity (VA)	20000	
Output kVA Capacity (kVA)	20.00	
Output Watt Capacity (Watts)	18000	
Output kW Capacity (kW)	18.00	
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	
Nominal Voltage Details	Voltage selection via front panel LCD interface	
Frequency Compatibility	50 / 60 Hz; Supports 50 to 60 Hz and 60 to 50 Hz conversion	
Frequency Compatibility Details	Output frequency matches input nominal on startup; Frequency conversion mode enables conversion of 60Hz to 50Hz to 60Hz (no de-rating)	
Output Voltage Regulation (Line Mode)	+/- 2%	





Output Voltage Regulation (Battery Mode)	+/- 2%
Output Circuit Breakers	Two built-in 30A breakers protect one L6-30R outlet each; Eight built-in 20A breakers protect one C19 outlet each
Output AC Waveform (AC Mode)	Pure Sine wave
Output AC Waveform (Battery Mode)	Pure Sine wave
Nominal Output Voltage(s) Supported	200V; 208V; 240V
Output Receptacles	(2) L6-30R; (8) C19
Individually Controllable Load Banks	No
BATTERY	
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	<a class="productLink" href="//www.tripplite.com/external-240v-battery-pack-select-tripp-lite-ups-systems-3u-taa~BP240V10RT3UTAA">BP240V10RT3UTAA</a> ; <a class="productLink" href="//www.tripplite.com/external-240v-battery-pack-select-tripp-lite-ups-systems-built-in-charger~BP240V787C-1PH">BP240V787C-1PH</a>
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
VOLTAGE REGULATION	
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
USER INTERFACE, ALERTS & CON	TROLS
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		
SURGE / NOISE SUPPRESSION	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 17.50 x 25.00		
Included Battery Pack Weight (lbs.)	159		
Included Battery Pack Weight (kg)	72.12		
Included Mounting Accessory Description	4 sets of adjustable 4 post rack rails included (one for each included 3U module)		
Installation Form Factors Supported with Included Accessories	4 post 19 inch rackmount		
Installation Form Factors Supported with Optional Accessories	2 post rackmount ( <a class="productLink" href="//www.tripplite.com/2-Post-Rack-Mount-Installation-Kit-3U-Larger-UPS-Transformer-Battery-Pack-Components~2POSTRMKITHD">2POSTRMKITHD=/a&gt; ); Tower ( <a class="productLink" href="//www.tripplite.com/2U-9U-Tower-Stand-Kit-select-Rack-Mount-UPS-Systems~2-9USTAND">2-9USTAND</a> )</a>		
Maximum Device Depth (cm)	83.82		
Maximum Device Depth (in.)	33		
Maximum Device Depth (mm)	838		
Minimum Required Rack Depth (cm)	96.52		
Minimum Required Rack Depth (inches)	38		
Optional Mounting Accessory Notes	Qty 4 <a class="productLink" href="//www.tripplite.com/2-Post-Rack-Mount-Installation-Kit-3U-Larger-UPS-Transformer-Battery-Pack-Components-2POSTRMKITHD">2POSTRMKITHD</a> -  required; Qty 2 <a class="productLink" href="//www.tripplite.com/2U-9U-Tower-Stand-Kit-select-Rack-Mount-UPS-Systems-2-9USTAND">2-9USTAND</a> -  required		
Primary Form Factor	Rackmount		
Primary UPS Depth (mm)	656		
Primary UPS Height (mm)	131		
Primary UPS Width (mm)	445		
Rack Height	12U		
Shipping Dimensions (hwd / cm)	91.44 x 102.24 x 129.54		
Shipping Dimensions (hwd / in.)	36.00 x 40.25 x 51.00		
Shipping Weight (kg)	272.61		
Shipping Weight (lbs.)	601.00		



Low Voltage Transfer to Battery Power (Setpoint)	100V	
Transfer Time	No transfer time (0 ms.) in online, double-conversion mode	
LINE / BATTERY TRANSFER		
Communications Interface	DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface; USB (HID enabled)	
WatchDog Compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications	
Communications Cable	USB, DB9 serial and EPO cables included	
PowerAlert Software	For local monitoring via the UPS's built-in communication ports, download PowerAlert Local software at https://www.tripplite.com/poweralert	
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	
Network Management Cards	<a class="productLink" href="//www.tripplite.com/SNMP-Web-Management-Accessory-Card-SmartPro-SmartOnline-UPS-Systems~SNMPWEBCARD">SNMPWEBCARD</a> ; <a class="productLink" href="//www.tripplite.com/Web-Management-Accessory-Card-SmartPro-SmartOnline-UPS-Systems~TLNETCARD">TLNETCARD</a> ; <a class="productLink" href="//www.tripplite.com/Web-Management-Accessory-Card~WEBCARDLX">WEBCARDLX"&gt;WEBCARDLX</a> ; <a class="productLink" href="//www.tripplite.com/MODBUS-Management-Accessory-Card-UPS-Remote-Monitoring-Control~MODBUSCARD">MODBUSCARD</a> ; <a class="productLink" href="//www.tripplite.com/Programmable-Relay-I-O-Card~RELAYIOCARD">RELAYIOCARD</a>	
COMMUNICATIONS		
Operating Elevation (m)	0-3000 m	
Audible Noise	60 dBA at front side 1 meter	
Operating Elevation (ft.)	0-3000m (0 to 10,000 ft.)	
AC Mode Efficiency Rating (100% Load)	90%	
Battery Mode BTU / Hr. (Full Load)	9185	
AC Mode BTU / Hr. (Full Load)	6830	
Relative Humidity	0 to 95%, non-condensing	
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius	
ENVIRONMENTAL  Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius	
UPS Power Module Weight (lbs.)	44	
UPS Power Module Dimensions (hwd, in.)  UPS Power Module Weight (kg)	5.14 x 17.50 x 25.82	
UPS Power Module Dimensions (hwd, cm)	13.06 x 44.45 x 65.58	
UPS Housing Material	Steel	
Unit Dimension Details	Includes 2 SU10000RT3UPMTAA UPS/Power modules, 2 BP240V10RT3UTAA Battery packs and SUPDMB20KTAA parallel bypass PDU; Listed weights and dimensions for UPS/Power module and Included battery pack each refer to a single unit; MAXIMUM DEVICE DEPTH specification refers to the whole UPS installed with parallel bypass PDU installed	





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	Auto Probe Monitoring (requires WEBCARDLX); 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; Zero transfer time		
Green Energy-Saving Features	Support for daily startup and shutoff		
STANDARDS & COMPLIANCE			
UPS Certifications	Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances); TAA Compliant; Tested to CSA (Canada); Tested to UL1778 (USA)		
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 <a class="insuranceLink" href="//www.tripplite.com/support/insurance-policy">Ultimate Lifetime Insurance</a>		

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