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## Model #: SU20KRTG

### SmartOnline 20kVA On-Line Double-Conversion UPS, N+1, 12U Rack/Tower, 200-240V C19 outlets



#### Highlights

- 20kVA / 20,000VA / 18,000W on-line double-conversion UPS; 0.9 power factor
- 200/208/220/230/240V 50/60Hz output; Economy mode option
- Hot-swap power and battery modules, N+1 fault tolerance at loads up to 10kVA
- USB, RS232 & EPO ports; support for SNMP/WEB 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); C19 outlets

#### Description

Tripp Lite SU20KRTG 20,000VA / 20kVA / 18,000 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 12U 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.

#### Package Includes

- Two SU10000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- SUPDMB20KIEC PDU with Bypass switch
- 4-post rackmount installation rails
- PowerAlert software and cabling

#### Features

- Tripp Lite SU20KRTG 20kVA, 20,000VA / 18,000 watt on-line, double-conversion UPS system in 12U 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 power modules at any supported load level
- Hardwire input; 8 C19 outlets
- Maintains full-time sine wave output within 2% of selectable 200/208/220/230/240V nominal
- Supports 50/60Hz operation for worldwide frequency compatibility
- Expandable runtime with optional external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- Battery independent restart
- Highly efficient economy mode option
- Optional SNMPWEBCARD, RELAYIOCARD and RELAYIOMINI interface modules available (RELAYIOMINI requires removal of USB interface module)
- HID-compliant USB interface
- Includes Free PowerAlert monitoring software; PowerAlert LOCAL, PowerAlert NSA and PowerAlert NMS for monitoring up to 250

SNMP-enabled UPS, PDU and other networking devices

- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (4 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
- Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)

## Specifications

<b>OUTPUT</b>	
<b>Output Volt Amp Capacity (VA)</b>	20000
<b>Output kVA capacity (kVA)</b>	20
<b>Output Watt Capacity (watts)</b>	18000
<b>Output kW capacity</b>	18
<b>Output power factor</b>	0.9
<b>Output Capacity Details</b>	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
<b>Nominal Output Voltage(s) Supported</b>	200V; 208V; 220V; 230V; 240V
<b>Nominal Voltage details</b>	Voltage selection via front panel LCD interface
<b>Frequency compatibility</b>	50 / 60 Hz; Supports 50 to 60 Hz and 60 to 50 Hz conversion
<b>Frequency compatibility details</b>	Output frequency matches input nominal on startup; Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)
<b>Output voltage regulation (line mode)</b>	+/- 2%
<b>Output voltage regulation (Economy line mode)</b>	+/- 10%
<b>Output voltage regulation (Battery mode)</b>	+/- 2%
<b>Built-in UPS output receptacles</b>	8 C19 outlet(s)
<b>Output circuit breaker</b>	8 20A breakers protect one C19 outlet each
<b>Output AC waveform (AC mode)</b>	Sine wave
<b>Output AC waveform (battery mode)</b>	Pure Sine wave
<b>INPUT</b>	
<b>Rated input current (at maximum load)</b>	112.2A (200V), 108A (208V), 102A (220V), 97.6A (230V), 93.6A (240V)

<b>Nominal Input Voltage(s) Supported</b>	200V AC; 208V AC; 220V AC; 230V AC; 240V AC
<b>UPS input connection type</b>	Hardwire
<b>UPS input connection description</b>	3 wire single phase input (L1, L2, G)
<b>Recommended Electrical Service</b>	120A @ 200V-240V (L, N, PE), or 125A @ 200V, 208V, or 240V (L1, L2, G)
<b>Phase</b>	Single-Phase
<b>BATTERY</b>	
<b>Full load runtime (minutes)</b>	4.3 minutes (18,000 watts)
<b>Half load runtime (minutes)</b>	12.5 minutes (9000 watts)
<b>Expandable battery runtime</b>	Runtime is expandable with external battery packs
<b>External battery pack compatibility</b>	<a href="#">BP240V10RT3U</a> ; <a href="#">BP240V557C-1PH</a> ; <a href="#">BP240V787C-1PH</a> ; <a href="#">BP240V1037C-1PH</a> ; <a href="#">BP240V1407C-1PH</a>
<b>Expandable runtime description</b>	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
<b>DC system voltage (VDC)</b>	240
<b>Battery recharge rate (included batteries)</b>	Less than 8 hours from 10% to 90%
<b>Battery replacement description</b>	Hot-swappable, user replaceable external battery packs
<b>VOLTAGE REGULATION</b>	
<b>Voltage regulation description</b>	2% output voltage regulation in standard online, double-conversion mode
<b>Overvoltage correction</b>	Corrects overvoltages up to 300V
<b>Undervoltage correction</b>	Corrects undervoltages as low as 100V
<b>LEDS ALARMS &amp; SWITCHES</b>	
<b>LED Indicators</b>	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>Front panel LCD display</b>	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)
<b>Alarms</b>	Unique audible alarms for all major UPS, environmental and power conditions (see manual)
<b>Alarm cancel operation</b>	Alarm cancel switch
<b>Switches</b>	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
<b>SURGE / NOISE SUPPRESSION</b>	

<b>UPS AC suppression response time</b>	Instantaneous
<b>EMI / RFI AC noise suppression</b>	Yes
<b>PHYSICAL</b>	
<b>Included mounting accessory description</b>	4 sets of adjustable 4 post rack rails included (one for each included 3U module)
<b>Installation form factors supported with optional accessories</b>	2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)
<b>Optional mounting accessory notes</b>	Qty 4 <a href="#">2POSTRMKITHD</a> required; Qty 2 <a href="#">2-9USTAND</a> required
<b>Primary form factor</b>	Rackmount
<b>UPS / Power Module dimensions in primary form factor (height x width x depth / inches)</b>	5.14 x 17.5 x 25.82
<b>UPS / Power Module dimensions in primary form factor (height x width x depth / cm)</b>	13.1 x 44.5 x 65.6
<b>Installed whole system maximum rack depth (inches)</b>	32.5
<b>Installed whole system maximum rack depth (cm)</b>	82.6
<b>Rack Height</b>	12U
<b>Secondary form factor</b>	Tower
<b>UPS / Power Module weight (lbs)</b>	44.1
<b>UPS / Power Module weight (kg)</b>	20
<b>UPS dimensions details</b>	Includes 2 SU10000RT3UPM UPS/Power modules and 2 BP240V10RT3U Battery packs; Listed weights and dimensions for UPS/Power module and Included battery pack each refer to a single unit
<b>Included battery pack dimensions (height x width x depth / inches)</b>	5.25 x 17.5 x 25
<b>Included battery pack dimensions (height x width x depth / cm)</b>	13.3 x 44.5 x 63.5
<b>Included battery pack weight (lbs)</b>	158.7
<b>Included battery pack weight (kg)</b>	72

<b>UPS Shipping dimensions (height x width x depth / inches)</b>	36 x 40.25 x 51
<b>UPS Shipping dimensions (height x width x depth / cm)</b>	91.4 x 102.2 x 129.5
<b>Shipping weight (lbs)</b>	600
<b>Shipping weight (kg)</b>	272.4
<b>Cooling method</b>	Fans
<b>UPS housing material</b>	Steel
<b>ENVIRONMENTAL</b>	
<b>Operating Temperature Range</b>	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius
<b>Storage Temperature Range</b>	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius
<b>Relative Humidity</b>	0 to 95%, non-condensing
<b>AC mode BTU / hr. (full load)</b>	6830
<b>AC economy mode BTU / hr. (full load)</b>	2550
<b>AC economy mode efficiency rating (100% load)</b>	96%
<b>Operating Elevation (ft.)</b>	0-3000m (0 to 10,000 ft.)
<b>Audible Noise</b>	60 dBA at front side 1 meter
<b>Operating Elevation (m)</b>	0-3000 m
<b>COMMUNICATIONS</b>	
<b>Communications interface</b>	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
<b>Network monitoring port description</b>	Additional contact closure support with optional RELAYIOCARD and RELAYIOMINI interface cards. RELAYIOMINI installation requires removal of panel containing USB ports
<b>PowerAlert software</b>	Included
<b>Communications cable</b>	USB, DB9 serial and EPO cables included
<b>WatchDog compatibility</b>	Supports Watchdog application, OS and hard-reboot restart options for remote applications
<b>LINE / BATTERY TRANSFER</b>	
<b>Transfer time</b>	No transfer time (0 ms.) in online, double-conversion mode
<b>Transfer time (economy mode)</b>	8 milliseconds typical power failure response in optional economy mode
<b>Low voltage transfer to battery power (setpoint)</b>	100V

<b>High voltage transfer to battery power (setpoint)</b>	300V
<b>SPECIAL FEATURES</b>	
<b>Cold Start (startup in battery mode during a power failure)</b>	Cold-start operation supported
<b>Economy mode operation</b>	Optional economy mode enables high efficiency bypass operation with a maximum output voltage variation of +/-10%. Double conversion mode is automatically restored as mains voltage varies beyond +/-10% with less than 1 millisecond transfer time between modes.
<b>High availability UPS features</b>	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries
<b>Green &amp; high efficiency features</b>	High efficiency economy mode operation; Support for daily startup and shutoff; Schedulable daily hours of economy mode operation
<b>CERTIFICATIONS</b>	
<b>UPS Certifications</b>	Tested to UL1778 (USA); Tested to CSA (Canada); CE; Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances)
<b>UPS Certification details</b>	IEC 61000-4-5 1995 B Surge Immunity
<b>WARRANTY</b>	
<b>Product Warranty Period (Worldwide)</b>	2-year limited warranty

## Related Items

### Optional Products

Related Model	Description	Qty.
<a href="#">SNMPWEBCARD</a>	For remote monitoring and control via SNMP, Web, or Telnet.	1
<a href="#">RELAYIOCARD</a>	Programmable Relay I/O Card	1
<a href="#">RELAYIOMINI</a>	3 Relay I/O Mini-module	1
<a href="#">MODBUSCARD</a>	For remote monitoring and control via MODBUS protocol	1
<a href="#">2-9U STAND</a>	Enables Tower Placement of Rackmount UPS Systems	1
<a href="#">2POSTRMKITHD</a>	Enables 2-Post Rackmount Installation of 3U and Larger UPS, Transformer and Battery Pack Components	1
<a href="#">BP240V10RT3U</a>	External Battery Pack and Cable. 3U, Expandable, Black 3-Point Connector	1
<a href="#">BP240V557C-1PH</a>	External battery pack for use with select Tripp Lite UPS Systems	1
<a href="#">BP240V787C-1PH</a>	External battery pack for use with select Tripp Lite UPS Systems	1
<a href="#">BP240V1037C-1PH</a>	External battery pack for use with select Tripp Lite UPS Systems	1
<a href="#">BP240V1407C-1PH</a>	External battery pack for use with select Tripp Lite UPS Systems	1
<a href="#">WEXT3-SU16-20K</a>	3-Year Warranty (1-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
<a href="#">WEXT5-SU16-20K</a>	5-Year Warranty (3-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
<a href="#">PDUMV20HV</a>	Metered 0U Vertical Rack PDU - Metered Power Distribution Unit for Network Applications	1
<a href="#">PDUMNV20HV</a>	Monitored PDU / Power Distribution Unit supports real-time remote monitoring of load level, voltage and frequency with options for remote environmental and security monitoring	1

PDUMV20HVNET	Switched, Metered PDU with Remote Monitoring - 0U Vertical Rackmount Power Distribution Unit for Networks with Individually Switchable Outlets, Current Metering, Remote Monitoring and Control	1
P032-007	7-ft. 12AWG Heavy Duty Power cord ( IEC-320- C13 to IEC-320-C20	1
P036-002	2-ft. 12AWG Heavy Duty Power cord (IEC-320-C19 to IEC-320-C20)	1
P036-006	6-ft. 12AWG Heavy Duty Power cord (IEC-320-C19 to IEC-320-C20)	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at [www.tripplite.com/en/products/model.cfm?txtModelID=4680](http://www.tripplite.com/en/products/model.cfm?txtModelID=4680).

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