SmartOnline 120V 208/240V 20kVA On-Line UPS – Double Conversion, 18kW, N+1, 14U, Network Card Option, TAA Compliant

MODEL NUMBER: **SU20KRT-1TFTAA**

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 Loss
This 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® SU20KRT-1TFTAA 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. Using the step-down transformer, the 20kVA UPS system can support both low- and high-voltage equipment.

Reliable, Expandable Battery Backup
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 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 Needed
With its parallel PDU, the SU20KRT-1TFTAA 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 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.

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
- 2U transformer supports power protection of both low- and high-voltage components
- Complies with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases

Applications

- Delivering perfectly regulated sine wave output to mission-critical 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 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

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.

Advanced Communications Ports
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
Hardware is included for mounting the 20kVA UPS system in 14U of space in an EIA-standard 19-inch 4-post rack. Use six 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 SU20KRT-1TFTAA is compliant with the Federal Trade Agreements Act (TAA) for GSA Schedule purchases.

2-Year Warranty, $250K Ultimate Lifetime Insurance and Environmentally Responsible Design
The SU20KRT-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). It's manufactured in compliance with strict RoHS specifications, reflecting Tripp Lite's commitment to environmental responsibility.

Specifications

OVERVIEW	
UPC Code	037332230959

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
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
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
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	BP240V10RT3UTAA; 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
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 & 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)
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	
UPS AC Suppression Response Time	Instantaneous
EMI / RFI AC Noise Suppression	Yes

PHYSICAL	
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 Optional Accessories	2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)
Optional Mounting Accessory Notes	Qty 5 2POSTRMKITHD required; Qty 2 2-9USTAND required
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 (U Spaces)	14
Maximum Device Depth (in.)	33
Minimum Required Rack Depth (inches)	38
Maximum Device Depth (cm)	83.82
Minimum Required Rack Depth (cm)	96.52
UPS Power Module Weight (lbs.)	44
UPS Power Module Weight (kg)	19.96
UPS Dimensions Details	Includes 2 SU10KRT3UPMTAA UPS/Power modules, 2 BP240V10RT3UTAA Battery packs, 1 SU6000XFMR2UTAA transformers 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.)	781.00
Shipping Weight (kg)	354.26
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
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	
Communications Interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
Network Management Cards	SNMPWEBCARD; TLNETCARD; WEBCARDLX; MODBUSCARD; RELAYIOCARD

Network Monitoring Port Description	Applications utilizing any supported network management card option, require the use of two network cards of the same-model (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

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 batteries; Hot swappable UPS power module; Manual bypass switch
Green Energy-Saving Features	Support for daily startup and shutoff

CERTIFICATIONS

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

WARRANTY

Product Warranty Period (Worldwide)	2-year limited warranty
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	$250,000 Ultimate Lifetime Insurance