

## SmartOnline SVX Series 210kVA N+1 Modular, Scalable 3-Phase, On-line Double-Conversion 400/230V 50/60Hz UPS System

MODEL NUMBER: **SVX210KL8P**



### Description

Tripp Lite's SVX210KL8P 210kVA / 210kW with N+1 redundancy SmartOnline large-chassis UPS includes installed Input, Bypass and Output breakers, a Static Transfer Switch (STS) and 8 included 30kVA SVX30PM power modules. The system is fully configured at 210kW maximum capacity with N+1 fault-tolerance and cannot accommodate additional 30kVA power modules.

Featuring modular, scalable design with high efficiency voltage and frequency independent / VFI operation, Tripp Lite's SVX Series SmartOnline UPS systems are ideal for the protection of a wide variety of critical IT systems. Scalable, modular configuration enables UPS capacity upgrades and hot-swap power supply maintenance without costly downtime. Over 94% efficient in standard online-mode and over 98% efficient in optional economy-mode enables reduced operating and cooling costs. Unity power factor configuration provides equal kVA and kW output ratings for up to 25% more wattage capacity than common 0.8 - 0.9 power factor competing designs. Network-grade sine-wave AC output with 1% output voltage regulation and less than 1.5% output total harmonic distortion. Advanced IGBT inverter with Digital Signal Processor (DSP) technology provides for less than 3% input total harmonic distortion (THDi) to support 1:1 generator sizing. Dual input hardwire design enables operation from one or two input power sources for enhanced system availability. N+1 fault-tolerance is supported anytime there is an "extra" SVX30PM 30kW power module installed beyond the minimum required quantity. Automatic and manual bypass options keep connected equipment operational during routine maintenance or critical power module failure. UPS batteries are not included, External  $\pm 240$ VDC battery cabinets sold separate.

### Features

- Tripp Lite's SVX210KL8P 210kVA / 210kW with N+1 SmartOnline UPS offers network-grade power protection in a highly-configurable large-chassis modular, scalable form factor
- Supports 220/380, 230/400 or 240/415V AC, 3-Phase Wye 4-Wire plus Earth Hardwire input and output wiring
- Tested to CE for worldwide applications
- Fully configured SVX large-frame chassis with 8 installed 30kVA power modules for 210kVA total capacity with N+1 fault tolerance; No additional 30kVA power supplies can be added

### Highlights

- 210kVA / 210kW with N+1 redundancy, modular, scalable, 3-phase, large-chassis tower UPS
- Supports 3 phase 220/380, 230/400 or 240/415V AC, 50/60Hz, Wye
- 210kVA with N+1 redundancy, the maximum configuration for the SVX large-chassis series
- High efficiency on-line UPS with DSP/IGBT technology and 1% output voltage regulation
- Economy mode option further reduces operating and cooling costs
- Pre-installed [WEBCARDLX](#) network interface
- Tested to CE for worldwide applications
- Batteries not included, External battery cabinets sold separate

### Package Includes

- SVX210KL8P UPS System
- Instruction manual
- Warranty information



- Pre-installed [WEBCARDLX](#) network interface
- Serial port enables unattended shutdown and UPS monitoring ability
- Modular configuration with hot-swappable power modules enables easy and fast maintenance with zero downtime
- Wide input voltage operating range enables full continuous online operation during brownouts as low as 120V (Ph-N) and overvoltages up to 276 (Ph-N)
- Narrow output voltage operating range regulates output voltage within 1% of the selected 220/230/240 nominal output voltage in online, double-conversion mode
- Over 95% efficient in online, double-conversion mode and over 99% efficient in optional economy-mode enables reduced operating and cooling costs
- Less than 3% input Total Harmonic Distortion (THDi) prevents the need to oversize generator systems relative to UPS capacity
- Dual hardwire input design enables operation from one or two input power sources
- N+1 fault tolerance is supported anytime there is an “extra” SVX30PM 30kW power module installed beyond the minimum required quantity (for example, this UPS provides N+1 fault-tolerance when loaded to 210kVA or less)
- Front panel combination LCD/LED display offers full UPS condition and status reporting plus additional configuration options

## Specifications

OUTPUT	
Output Volt Amp Capacity (VA)	210000
Output kVA Capacity (kVA)	210
Output Watt Capacity (Watts)	210000
Output kW Capacity (kW)	210
Output Capacity Details	OVERLOAD CAPABILITY: Supports 105-110% load for 1 hour, 111-125% load for 10 minutes, 126-150% for 1 minute and Over 150% for 200ms before switching to Bypass; Online operation resumes when load is reduced to 100% or less
Power Factor	1.0
Crest Factor	3:1
Nominal Output Voltage(s) Supported	220/380V 3-PH Wye; 230/400V 3-PH Wye; 240/415V 3-PH Wye
Nominal Voltage Details	Output THD full resistive load: <1.5%; Output THD non-linear load: <4%; Max DC offset: ±50mV; Max Phase angle deviation: 2°; Max Voltage unbalance deviation: 1%; Output short-circuit protection included
Frequency Compatibility	50 / 60 Hz; Supports 50 to 60 Hz and 60 to 50 Hz conversion
Frequency Compatibility Details	Auto-selectable, user adjustable
Output Receptacles	Hardwire
Output Circuit Breakers	400A 3 pole magnetic breaker
Output AC Waveform (AC Mode)	Pure Sine wave
Output AC Waveform (Battery Mode)	Pure Sine wave
Output Voltage Regulation	ONLINE, FREQUENCY CONVERSION, BATTERY MODE: 220/230/240V ±1% typical (balanced load); ±2% typical (unbalanced load); ECONOMY MODE: 220/230/240V ±15V; BYPASS MODE: +15% (default, adjustable to +10%, +15% or +20%), -20% (default, adjustable to -10%, -20%, -30%)



Output Frequency Regulation	<p>ONLINE MODE: Output frequency is <math>\pm 0.05\text{Hz}</math> of input frequency when input is within <math>\pm 4\text{Hz}^*</math> of the configured 50/60Hz output setting; Output frequency is <math>\pm 0.05\text{Hz}</math> the configured 50/60Hz output setting when input is outside <math>\pm 4\text{Hz}^*</math> of the configured 50/60Hz output setting; BATTERY MODE: Output frequency is <math>\pm 0.1\text{Hz}</math> of the configured 50/60Hz output setting; FREQUENCY CONVERTER MODE: Output frequency is <math>\pm 0.1\text{Hz}</math> of the configured 50/60Hz output setting; ECONOMY MODE: Output frequency equals input frequency up to <math>\pm 4\text{Hz}^*</math> of the configured 50/60Hz output setting (UPS switches to Online mode if frequency goes outside of this range); BYPASS MODE: Output frequency equals input frequency up to <math>\pm 4\text{Hz}^*</math> of the configured 50/60Hz output setting (switches to STANDBY mode if frequency goes outside of this range). *The TRACKING RANGE is factory set to <math>\pm 4\text{Hz}</math> and is user adjustable to <math>\pm 1\text{Hz}</math>, <math>\pm 2\text{Hz}</math> or <math>\pm 4\text{Hz}</math>; The selected TRACKING RANGE setting controls frequency output tolerances as described above in Online, Economy and Bypass modes</p>
Output Amp Capacity	Output Amp Capacity 319A (220/380V); 303A (230/400V); 292A (240/415V)
Modular Upgrade Options	Modular Upgrade Options Includes 8 SVX30PM 30kVA power modules. This is the maximum configuration for the SVX large-chassis lineup, no additional power modules can be added
<b>INPUT</b>	
Rated input current (Maximum Load)	SVX210KL8P 210kVA Configuration: 385A; Maximum 210kVA Large Chassis Configuration: 385A; 40A maximum inrush current
Nominal Input Voltage(s) Supported	220/380V 3-PH Wye; 230/400V 3-PH Wye; 240/415V 3-PH Wye
Nominal Input Voltage Description	Set of two hardwire input connections enables 3-Phase Wye, 4 wire (3P, N, G) inputs from two separate power sources
UPS Input Connection Type	Hardwire
Input Circuit Breakers	MAIN and ALTERNATE AC inputs are each protected by 400A 3 pole magnetic breakers
Input Phase	3-Phase
Input Frequency	40 to 70Hz (online mode); 50/60Hz Auto-selectable
Power Factor (Input)	Greater than 0.99 (full load)
THDi	Less than 3% (full linear load)
<b>BATTERY</b>	
Full Load Runtime (min.)	Batteries sold separate; Runtime is dependent on battery pack quantity and load level
Expandable Battery Runtime	Supports extended runtime with optional external battery packs; 100A 3 pole 250VDC breaker recommended for external battery
Expandable Runtime Description	External battery pack wiring is contractor supplied
DC System Voltage (VDC)	$\pm 240\text{VDC}$
Battery Recharge Rate (Included Batteries)	Battery Recharge Rate (Included Batteries) User selectable charging current of 1A to 8A (2A factory setting); Recharge rate is dependent on number of external battery packs connected and the selected charge current setting
Battery Replacement Description	Hot-swappable, replaceable batteries
Expandable Runtime	Yes
<b>VOLTAGE REGULATION</b>	
Voltage Regulation Description	Online, double-conversion power conditioning
Overvoltage Correction	Maintains continuous output in online mode, without using battery power, during overvoltages to 478V (Ph-Ph), reducing output to within 1% of selected 380/220V, 400/230V, 415/240V nominal output voltage



Undervoltage Correction	Maintains continuous output in online mode, without using battery power, during brownout/undervoltage conditions to 305V (Ph-Ph) at full load and to 208V (Ph-Ph) at 70% output load or less, increasing output to within 1% of selected 380/220V, 400/230V, 415/240V nominal output voltage
<b>USER INTERFACE, ALERTS &amp; CONTROLS</b>	
Front Panel LCD Display	145mm front panel LCD display with directional scroll and select buttons offers complete operating status display, plus setting and selection options for all UPS functions
Switches	Front panel buttons include ESC (menu escape), UP/LEFT (menu up / left), DOWN/RIGHT (menu down / right), ENTER (confirm selection), HOME (return to home screen) and POWER (on/off power control); Also includes Manual Bypass switch
Alarm Cancel Operation	Audible alarms can be muted using on-screen prompts
Audible Alarm	Unique audible alarms for POWER ON / POWER OFF (alarm sounds for 2 seconds), BATTERY MODE (alarm sounds every 2 seconds), LOW BATTERY (alarm sounds every 0.5 seconds), UPS ALARM (alarm sounds every 1 second), UPS FAULT (continuous alarm)
LED Indicators	Front panel LED indicators represent INPUT (green), BYPASS (amber), INVERTER (green), BATTERY (red) and ALARM (red)
<b>SURGE / NOISE SUPPRESSION</b>	
EMI / RFI AC Noise Suppression	Yes
AC Suppression Joule Rating	2496
AC Suppression Joule Rating Details	2496 joules (Ph-Ph), 2496 joules (Ph-N), 1872 joules (N-E)
AC Suppression Response Time	Instantaneous
<b>PHYSICAL</b>	
Installation Form Factors Supported with Included Accessories	Tower
Primary Form Factor	Tower
UPS Power Module Dimensions (hwd, in.)	79.13 x 23.62 x 43.3
UPS Power Module Dimensions (hwd, cm)	200.99 x 59.99 x 109.98
UPS Power Module Weight (lbs.)	1210
UPS Power Module Weight (kg)	548.85
UPS Shipping Dimensions (hwd / in.)	85.62 x 29.52 x 48.03
UPS Shipping Dimensions (hwd / cm)	217.47 x 74.98 x 122.00
Shipping Weight (lbs.)	1407
Shipping Weight (kg)	638.8
Cooling Method	Fans
UPS Housing Material	Steel
Primary UPS Height (mm)	2010
Primary UPS Width (mm)	600



Primary UPS Depth (mm)	1100
Shipping Height (mm)	2175
Shipping Width (mm)	750
Shipping Depth (mm)	1220
<b>ENVIRONMENTAL</b>	
Operating Temperature Range	0° to +40°C (+32° to +104°F); De-rates to 90% capacity at 35°C / 95°F and 80% capacity at 40°C / 104°F
Storage Temperature Range	-15° to +60°C (+5° to +140°F)
Relative Humidity	0 to 95%, non-condensing
AC Mode BTU / Hr. (Full Load)	40100
AC Economy Mode BTU / Hr. (Full Load)	5342
AC Mode Efficiency Rating (100% Load)	95%
AC Economy Mode Efficiency Rating (100% Load)	99%
Audible Noise	Audible Noise Less than 73 DBA front-side, 1m
Operating Elevation (m)	Operating Elevation (m) Up to 1000m (At elevations over 1000m, output de-rates by 1% per 100m)
<b>COMMUNICATIONS</b>	
Communications Interface	DB9 Serial; EPO (emergency power off); Pre-installed network card; Slot for SNMP/Web interface
Network Management Cards	<a href="#">WEBCARDLX</a>
Network Monitoring Port Description	Includes pre-installed Tripp Lite WEBCARDLX network interface
PowerAlert Software	For local monitoring via the UPS's built-in communication ports, download PowerAlert Local software at <a href="http://www.tripplite.com/poweralert">http://www.tripplite.com/poweralert</a>
Communications Cable	DB9 cabling included
SNMP Compatibility	Includes pre-installed Tripp Lite <a href="#">WEBCARDLX</a> network interface
<b>LINE / BATTERY TRANSFER</b>	
Transfer Time	No transfer time (0 ms.) in online, double-conversion mode; Less than 20 ms. transfer time in economy mode
Low Voltage Transfer to Battery Power (Setpoint)	Maintains continuous operation without using battery power during brownout/undervoltage conditions to to 305V (Ph-Ph) Full load or 208V (Ph-Ph) 70% load or less; Below the low transfer voltage point, output is maintained utilizing reserve battery power
High Voltage Transfer to Battery Power (Setpoint)	Maintains continuous operation without using battery power during overvoltages to 478V (Ph-Ph), reducing output within 1% of nominal; Above this point, output is maintained utilizing reserve battery power
<b>SPECIAL FEATURES</b>	
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



**Tripp Lite**  
1111 W. 35th Street  
Chicago, IL 60609 USA  
Telephone: 773.869.1234  
[www.tripplite.com](http://www.tripplite.com)

Green Energy-Saving Features	Greater than 95% efficiency - GREEN UPS; High efficiency economy mode operation; Schedulable daily hours of economy mode operation
<b>CERTIFICATIONS</b>	
UPS Certifications	CE; ROHS (Restriction of Hazardous Substances)
UPS Certification Details	Agency standards IEC 62040-1:2008+A1:2013; EMI Approvals EN62040-2, 2006 (Category C3); Vibration and Shock: SS-EN 60068-2-64
<b>WARRANTY</b>	
Product Warranty Period (International)	2-year limited warranty

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