

## SmartOnline SVX Series 90kVA 400/230V 50/60Hz Modular Scalable 3-Phase On-Line Double- Conversion Medium-Frame UPS System, 5 Battery Modules

MODEL NUMBER: **SVX90KM3P5B**



### Description

Tripp Lite's SVX90KM3P5B 90kVA/90kW SmartOnline® Medium-Frame UPS includes installed input, bypass and output breakers, a static transfer switch (STS) and 3 included 30kVA SVX30PM power modules. This system supports the addition of 1 additional user-installable SVX30PM power module to accommodate 90kW total capacity with N+1 fault-tolerance. Five internal battery modules are included to fully load internal battery compartments. Additional runtime is available using any number of compatible  $\pm 240\text{VDC}$  external battery packs (sold separately).

Featuring a 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 95% efficient in standard online mode and over 99% 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 configurable 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.

### Highlights

- 90kVA/90kW Modular, Scalable, 3-Phase Medium-Frame Tower UPS
- Supports 3-Phase 220/380V, 230/400V or 240/415V AC, 50/60Hz, Wye; Scalable to 90kVA with N+1 redundancy
- High efficiency on-line UPS with DSP/IGBT technology and 1% output voltage regulation
- Pre-installed WEBCARDLX with latest version of PADM20 for enhanced remote management
- Includes 5 internal battery modules, Additional battery options available; Tested to CE for worldwide applications

### Package Includes

- SVX90KM3P5B Medium-Frame Modular UPS System
- (3) SVX30PM 30kVA power modules
- (5) SVXBM battery modules
- Pre-installed WEBCARDLX network interface
- Owner's manual



## Features

- Tripp Lite's SVX90KM3P5B 90kVA/90kW SmartOnline UPS offers network-grade power protection in a highly configurable medium-frame modular, scalable form factor
  - Includes 3 SVX30PM 30kW power modules for 90kVA total capacity; Open slots for 1 additional SVX30PM 30kW power module enable enhanced N+1 redundancy
  - Included batteries support a full load of 90kW for 4.2 minutes and half load of 45kW for 8.8 minutes; Extended runtime is available with the addition of any number of supported external battery packs (sold separately)
  - 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
  - Pre-installed WEBCARDLX with the latest version of PowerAlert Device Manager firmware (PADM20) provides enhanced remote management capabilities
  - PADM20 and PowerAlert Element Manager (PAEM) form a powerful tool for expanding maintenance functions in large installations, including firmware update checks and backup and restoration of device configurations
  - 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
- Front panel combination LCD/LED display offers full UPS condition and status reporting plus additional configuration options

## Specifications

OVERVIEW	
UPC Code	037332194374
UPS Type	On-Line
INPUT	



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Rated input current (Maximum Load)	110A Maximum
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>OUTPUT</b>	
Output Volt Amp Capacity (VA)	90000
Output kVA Capacity (kVA)	90
Output Watt Capacity (Watts)	90000
Output kW Capacity (kW)	90
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 Voltage Details	Output THD full resistive load: <1.5%; Output THD non-linear load: <4%; Max DC offset: $\pm 50\text{mV}$ ; Max Phase angle deviation: $2^\circ$ ; 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 Receptacle Details	Output wiring: 3P, N, E
Output Circuit Breakers	400A 3 pole magnetic breaker
Output AC Waveform (AC Mode)	Pure Sine wave
Output AC Waveform (Battery Mode)	Pure Sine wave
Nominal Output Voltage(s) Supported	220/380V 3-PH Wye; 230/400V 3-PH Wye; 240/415V 3-PH Wye
Output Receptacles	Hardwire
Output Voltage Regulation	ONLINE, FREQUENCY CONVERSION, BATTERY MODE: 220/230/240V $\pm 1\%$ typical (balanced load); $\pm 2\%$ typical (unbalanced load); ECONOMY MODE: 220/230/240V $\pm 15\text{V}$ ; BYPASS MODE: +15% (default, adjustable to +10%, +15% or +20%), -20% (default, adjustable to -10%, -20%, -30%)

4 / 7



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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>	
Cooling Method	Fans
Installation Form Factors Supported with Included Accessories	Tower
Primary Form Factor	Tower
Primary UPS Depth (mm)	1,100
Primary UPS Height (mm)	2,010
Primary UPS Width (mm)	600
Shipping Dimensions (hwd / cm)	138.43 x 72.39 x 107.95
Shipping Dimensions (hwd / in.)	54.50 x 28.50 x 42.50
Shipping Weight (kg)	479.90
Shipping Weight (lbs.)	1058.00
UPS Housing Material	Steel
UPS Power Module Dimensions (hwd, cm)	200.99 x 59.99 x 109.98
UPS Power Module Dimensions (hwd, in.)	79.13 x 23.62 x 43.3
UPS Power Module Weight (kg)	897.66
UPS Power Module Weight (lbs.)	1979
<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)	17200
AC Economy Mode BTU / Hr. (Full Load)	3100





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AC Mode Efficiency Rating (100% Load)	95%
AC Economy Mode Efficiency Rating (100% Load)	99%
Audible Noise	Less than 73 DBA front-side, 1m
Operating Elevation (m)	Up to 1000m (At elevations over 1000m, output de-rates by 1% per 100m)
<b>COMMUNICATIONS</b>	
Network Management Cards	<a href="#">Web-Management-Accessory-Card~WEBCARDLX</a> & <a href="#">Programmable-RS-485-Management-Accessory-Card-for-Select-3-Phase-UPS-Systems~MODBUSCARDSV</a> & <a href="#">Programmable-Relay-I-O-Card-Tripp-Lite-SVTX-SVX-SV-UPS-Systems~RELAYCARDSV</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="https://www.tripplite.com/poweralert">https://www.tripplite.com/poweralert</a>
Communications Cable	DB9 cabling included
SNMP Compatibility	Includes pre-installed <a href="#">Web-Management-Accessory-Card~WEBCARDLX</a> network interface card
Communications Interface	DB9 Serial; EPO (emergency power off); Pre-installed network card; Slot for SNMP/Web 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 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; Auto Probe Monitoring (included); Zero transfer time; On-Line/Double-Conversion
Green Energy-Saving Features	Greater than 95% efficiency - GREEN UPS; High efficiency economy mode operation; Schedulable daily hours of economy mode operation
<b>STANDARDS &amp; COMPLIANCE</b>	
UPS Certifications	CE; ROHS (Restriction of Hazardous Substances)
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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3-Phase Warranty Statement	<a href="#">Tripp Lite 3-Phase UPS Factory Warranty</a>
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