

# SmartOnline SVTX Series 3-Phase 380/400/415V 20kVA 18kW On-Line Double-Conversion UPS, Tower, Extended Run, SNMP Option

MODEL NUMBER: SVT20KX



Economical, entry-level 3-phase UPS system protects connected mission-critical equipment against damage, downtime and data loss due to blackouts, brownouts, power surges and line noise.

## Description

The SVT20KX SmartOnline® SVTX Series 3-Phase 380/400/415V 20kVA 18kW On-Line Double-Conversion UPS with IGBT technology provides battery backup and AC power protection against power disturbances that can damage electronics or destroy data. It's recommended for critical IT or corporate infrastructure, telecom, LAN/WAN, security and emergency, financial and light industrial applications. The SVT20KX's Voltage and Frequency Independent (VFI) design allows continuous operation at any supported voltage at either 50 or 60 Hz. Zero transfer time to battery mode ensures no disruption to the attached loads. Automatic and Manual Bypass keeps connected equipment powered even during overloads and UPS maintenance.

IGBT inverter technology produces output power with less than 2% total harmonic distortion (THD) to keep connected equipment functioning at its peak. A 3:1 crest factor safely supports a variety of loads, even those with wildly fluctuating power demands.

Managing the SVT20KX is simplified through the interactive front-panel LCD interface, which displays critical operating conditions and diagnostic data, such as load levels, available runtime, alarm status, battery charge, and voltage and frequency values. Four LEDs indicate bypass, line, battery and fault modes. A built-in card slot supports WEBCARDLX or RELAYCARDSV for network interface and remote monitoring and control. The SVT20KX's reduced size and small footprint save valuable space.

## Features

**VFI True On-Line Double-Conversion 3-Phase UPS System** Provides fully regulated sine wave AC output for critical telecom, network, security, financial, corporate and light industrial applications +/-1% output voltage regulation in online and battery modes High 0.9 power factor offers 20kVA/18kW output capacity, allowing for more connected devices Selectable 380/400/415V output voltage Wide input voltage window (305–478V) minimizes battery use and prolongs battery life

**Reliable Battery Backup with Expandable Runtime** Supports half load for 11 min. and full load for 4 min. Zero transfer time suitable for advanced network applications Expandable runtime with optional external battery packs, such as BP240V135 Restarts automatically after lengthy power outages

**IGBT Inverter Technology** Produces output power with less than 2% THD to keep connected equipment functioning at its peak Low <6% THDi input rating and advanced IGBT rectifier enables 1:1 Generator Sizing, eliminating costly oversizing requirements for generators, breakers and cables

**Paralleling Capability** Connect up to 3 units in parallel configuration for increased capacity

## Highlights

- On-line double-conversion topology, VFI operation
- Automatic and Manual Bypass for enhanced reliability
- Optional ECO mode for high-efficiency operation
- Add optional WEBCARDLX with latest version of PADM20 for enhanced remote management
- Paralleling for capacity up to 3 units

## Package Includes

- SVT20KX SmartOnline SVTX Series 3-Phase 380/400/415V 20kVA 18kW On-Line Double-Conversion UPS
- (2) RS-232 cables
- 6-pin current sharing cable
- Owner's manual



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**Automatic and Manual Bypass**Increases system reliabilityAllows maintenance without removing power from attached loads

**ECO Mode**Operates at efficiency levels as high as 98.8% when input line conditions are favorable

**SNMP/Web Capability**Slot for WEBCARDLX network interface or RELAYCARDSV relay card for remote monitoring and control optionsOptional WEBCARDLX (sold separately) with the latest version of PowerAlert Device Manager firmware (PADM20) provides enhanced remote management capabilitiesPADM20 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

**Communications Ports**DB9 and EPO ports offer local monitoring and shutdown options

**Small-Footprint Tower Design**Reduced-size black tower case saves valuable floor spaceMatching external battery cabinets enable extended runtime options

## Specifications

| OVERVIEW                           |                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UPC Code                           | 037332195890                                                                                                                                                                                                                                                                                                                                                                                 |
| UPS Type                           | On-Line                                                                                                                                                                                                                                                                                                                                                                                      |
| INPUT                              |                                                                                                                                                                                                                                                                                                                                                                                              |
| Input Phase                        | 3-Phase                                                                                                                                                                                                                                                                                                                                                                                      |
| Rated input current (Maximum Load) | 34.4A                                                                                                                                                                                                                                                                                                                                                                                        |
| Nominal Input Voltage(s) Supported | 220/380V 3-PH Wye; 230/400V 3-PH Wye; 240/415V 3-PH Wye                                                                                                                                                                                                                                                                                                                                      |
| Nominal Input Voltage Description  | 3-Phase Wye, 4 wire plus ground (L1, L2, L3, N, G)                                                                                                                                                                                                                                                                                                                                           |
| UPS Input Connection Type          | Hardwire                                                                                                                                                                                                                                                                                                                                                                                     |
| Input Circuit Breakers             | 63A (3 pole)                                                                                                                                                                                                                                                                                                                                                                                 |
| Power Factor (Input)               | .99PF (100% load)                                                                                                                                                                                                                                                                                                                                                                            |
| THDi                               | <6% (100% load)                                                                                                                                                                                                                                                                                                                                                                              |
| OUTPUT                             |                                                                                                                                                                                                                                                                                                                                                                                              |
| Output Capacity (VA)               | 20000                                                                                                                                                                                                                                                                                                                                                                                        |
| Output Capacity (kVA)              | 20                                                                                                                                                                                                                                                                                                                                                                                           |
| Output Capacity (Watts)            | 18000                                                                                                                                                                                                                                                                                                                                                                                        |
| Output Capacity (kW)               | 18                                                                                                                                                                                                                                                                                                                                                                                           |
| Output Capacity Details            | Supports up to 100% load continuously in double conversion mode; Supports 100-110% load for 10 minutes, 110 to 130% load for 1 minute and greater than 130% for 1 second before switching to bypass mode; Inverter mode is automatically restored as load levels are reduced to 70% or less; Configuration options support up to 3 SVT20KX systems wired in parallel for increased capacity. |
| Power Factor                       | 0.9                                                                                                                                                                                                                                                                                                                                                                                          |
| Crest Factor                       | 3:1                                                                                                                                                                                                                                                                                                                                                                                          |
| Frequency Compatibility            | 50 / 60 Hz                                                                                                                                                                                                                                                                                                                                                                                   |



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|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Compatibility Details               | Automatic frequency selection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Output Voltage Regulation (Line Mode)         | +/- 1%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Output Voltage Regulation (Economy Line Mode) | +/-11V of selected nominal output voltage (220V: 209-231V; 230V: 219-241; 240V: 229-251V)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Output Voltage Regulation (Battery Mode)      | +/- 2%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Individually Controllable Load Banks          | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>BATTERY</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Runtime Full Load (min.)                      | 4 min. (18kW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Runtime Half Load (min.)                      | 11 min. (9000W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Expandable Runtime                            | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| External Battery Pack Compatibility           | BP240V135                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DC System Voltage (VDC)                       | 240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Battery Recharge Rate (Included Batteries)    | 4 hours to 90% (Internal batteries)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>VOLTAGE REGULATION</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Voltage Regulation Description                | Online, double-conversion power conditioning maintains output within 1% of the selected nominal voltage in online mode                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Overvoltage Correction                        | Corrects overvoltage conditions to 520V (50% load) and 478V (100% load)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Undervoltage Correction                       | Corrects brownout conditions to 110V (50% load) / 305V (100% load)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>USER INTERFACE, ALERTS &amp; CONTROLS</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Front Panel LCD Display                       | LCD DISPLAY: offers a variety of graphical, text and numeric information to indicate a wide range of UPS operation and fault / warning conditions, including current operating mode, alarm status, load level, battery charge, input / output voltage & frequency, estimated runtime and more (see user manual for a detailed listing)                                                                                                                                                                                                     |
| Switches                                      | ON / ENTER BUTTON: turns the UPS on and confirms a selection from the settings menu; OFF / ESC BUTTON: turns off the UPS and returns to the previous item in the settings menu; TEST / UP BUTTON: initiates UPS self-test operation and advances to the next item in the settings menu; MUTE / DOWN BUTTON: silences the audible alarm and advances to the previous item in the settings menu; Press TEST/UP & MUTE/DOWN buttons simultaneously for 1 second to enter or exit the settings menu (See user manual for detailed information) |
| Audible Alarm                                 | Alarms warn users of a variety of operational conditions: BYPASS MODE (beeps every 2 seconds), BATTERY MODE (beeps every 4 seconds), FAULT MODE (beeps continuously), OVERLOAD (beeps twice per second), OTHER WARNINGS (beeps once per second), FAULT (beeps continuously); All alarms can be silenced, except OVERLOAD & OTHER WARNINGS conditions                                                                                                                                                                                       |
| LED Indicators                                | 4 LEDs report BYPASS / LINE / BATTERY / FAULT modes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>PHYSICAL</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



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|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Form Factor                                           | Tower                                                                                                                                                  |
| Cooling Method                                                | Fans                                                                                                                                                   |
| Installation Form Factors Supported with Included Accessories | Tower                                                                                                                                                  |
| Primary UPS Depth (mm)                                        | 813                                                                                                                                                    |
| Primary UPS Height (mm)                                       | 861                                                                                                                                                    |
| Primary UPS Width (mm)                                        | 249                                                                                                                                                    |
| Shipping Dimensions (hwd / in.)                               | 41.74 x 14.96 x 36.22                                                                                                                                  |
| Shipping Dimensions (hwd / cm)                                | 106.02 x 38.00 x 92.00                                                                                                                                 |
| Shipping Weight (lbs.)                                        | 427.00                                                                                                                                                 |
| Shipping Weight (kg)                                          | 193.68                                                                                                                                                 |
| UPS Housing Material                                          | Steel                                                                                                                                                  |
| UPS Power Module Dimensions (Height x Width x Depth, mm)      | 862 x 250 x 813                                                                                                                                        |
| UPS Power Module Dimensions (hwd, cm)                         | 86.11 x 24.89 x 81.28                                                                                                                                  |
| UPS Power Module Dimensions (hwd, in.)                        | 33.9 x 9.8 x 32                                                                                                                                        |
| UPS Power Module Weight (kg)                                  | 177.81                                                                                                                                                 |
| UPS Power Module Weight (lbs.)                                | 392                                                                                                                                                    |
| Unit Weight (lbs.)                                            | 392.42                                                                                                                                                 |
| Unit Weight (kg)                                              | 178.00                                                                                                                                                 |
| <b>ENVIRONMENTAL</b>                                          |                                                                                                                                                        |
| Operating Temperature Range                                   | 32° to 104°F (0° to 40°C)                                                                                                                              |
| Storage Temperature Range                                     | 32° to 95°F (0° to 35°C) with battery; 5° to 140°F (-15° to 60°C) without battery                                                                      |
| Relative Humidity                                             | 5 to 95%, non-condensing                                                                                                                               |
| AC Mode BTU / Hr. (Full Load)                                 | 6079                                                                                                                                                   |
| Operating Elevation                                           | 0-3280 ft. (0-1000 m)                                                                                                                                  |
| Audible Noise                                                 | <65dBA front side 1M                                                                                                                                   |
| <b>COMMUNICATIONS</b>                                         |                                                                                                                                                        |
| Network Management Cards                                      | WEBCARDLX; <a href="http://tripplite.eaton.com/Network-Card-Eaton-Tripp-Lite-Series-UPS-Systems-WEBCARDLXE">WEBCARDLXE</a> ; MODBUSCARDSV; RELAYCARDSV |
| Network Monitoring Port Description                           | Card accessory slot also supports network interface and relay card options                                                                             |
| Communications Cable                                          | DB9 cabling included                                                                                                                                   |
| Communications Interface                                      | DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface                                                                                     |
| <b>LINE / BATTERY TRANSFER</b>                                |                                                                                                                                                        |



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|                                                             |                                                                                                                                             |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Transfer Time                                               | Zero transfer time in ONLINE MODE (0ms); ECONOMY MODE: 7ms from AC to Battery mode / 0.6ms from Battery to AC mode                          |
| Low Voltage Transfer to Battery Power (Setpoint)            | 110V (50% load) / 305V (100% load)                                                                                                          |
| High Voltage Transfer to Battery Power (Setpoint)           | 520V (50% load) / 478V (100% load)                                                                                                          |
| <b>FEATURES &amp; SPECIFICATIONS</b>                        |                                                                                                                                             |
| Cold Start (Startup in Battery Mode During a Power Failure) | Cold-start operation supported                                                                                                              |
| High Availability UPS Features                              | Automatic inverter bypass; Manual bypass switch; Auto Probe Monitoring (requires WEBCARDLXE); Zero transfer time; On-Line/Double-Conversion |
| Green Energy-Saving Features                                | High efficiency economy mode operation                                                                                                      |
| Grounding Details                                           | Yes                                                                                                                                         |
| IP68 Rated                                                  | No                                                                                                                                          |
| IP20 Rated                                                  | No                                                                                                                                          |
| <b>APPLICATIONS</b>                                         |                                                                                                                                             |
| UPS Applications                                            | Mission Critical Applications                                                                                                               |
| <b>STANDARDS &amp; COMPLIANCE</b>                           |                                                                                                                                             |
| Product Certifications                                      | IEC/EN 62040                                                                                                                                |
| Product Compliance                                          | RoHS; CE (Europe)                                                                                                                           |
| <b>WARRANTY &amp; SUPPORT</b>                               |                                                                                                                                             |
| Product Warranty Period (U.S. & Canada)                     | 1-year limited warranty                                                                                                                     |
| Product Warranty Period (International)                     | 2-year limited warranty                                                                                                                     |
| Product Warranty Period (Mexico)                            | 2-year limited warranty                                                                                                                     |
| Product Warranty Period (Puerto Rico)                       | 2-year limited warranty                                                                                                                     |
| 3-Phase Warranty Statement                                  | <u>Tripp Lite 3-Phase UPS Factory Warranty</u>                                                                                              |

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