# SmartOnline SV Series 60kVA Medium-Frame Modular Scalable 3-Phase On-Line Double-Conversion 208/120V 50/60 Hz UPS System, No SVBM Battery Modules

MODEL NUMBER: **SV60KM3P0B**







3-phase 60kVA UPS system offers network-grade power protection in a highly configurable, modular and scalable medium-chassis rack-width frame. External batteries required to operate.

## Highlights

- Scalable capacity up to 80kVA (or 60kVA with N+1 fault tolerance)
- Economy mode option helps reduce operating and cooling costs
- Pre-installed WEBCARDLX network interface for 24/7 remote access
- DSP/IGBT technology and 1% output voltage regulation
- External batteries required to operate

## Package Includes

SV60KM3P0B SmartOnline SV Series 60kVA 3-Phase On-Line Double-Conversion UPS System
Pre-installed WEBCARDLX network interface
(3) SV20PM 20kVA power modules (shipped separately)
Owner's manual

## Description

The SV60KM3P0B SmartOnline® SV Series 60kVA 3-Phase On-Line Double-Conversion UPS System delivers true scalability and offers the highest level of secure, uninterrupted power protection. Featuring a modular, scalable design with high-efficiency voltage and frequency independent (VFI) operation, this on-line UPS system is ideal for protecting a variety of critical IT systems.
The SV60KM3P0B includes pre-installed input, bypass and output breakers, as well as a static transfer switch (STS) and three 20kVA SV20PM power modules. Space is included for one additional user-installable SV20PM power module. External ±120VDC battery options, such as BP240V370 or EBP240VXXX series battery cabinets, are available for extended runtime.
The Java-free HTML5-based WEBCARDLX interface 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.
With up to 92% efficiency in standard mode and up to 99% efficiency in optional economy mode, this 60kVA UPS system helps you reduce operating and cooling costs. Automatic and manual bypass options keep connected equipment operational during routine maintenance or critical power module failure. Front-panel display offers full UPS condition and status reporting.

## Features

**60kVA 54kW 3-Phase Medium-Chassis UPS System**Supports 208/120V or 220/127V AC 50/60Hz Wye 4-wire plus Earth hardwire input and output wiringDual hardwire input design enables operation from up to 2 power sourcesNetwork-grade sine-wave AC output with 1% output voltage regulation and less than 1% output total harmonic distortionTested to UL 1778 (U.S.), CSA (Canada) and NOM (Mexico) standardsHigh 0.9 power factor for maximum power to the connected load

**Pre-Installed WEBCARDLX Network Interface**Allows full remote access for power monitoring, configuration, control and email notifications via secure web browser, SNMP, telnet or SSHSupports 10/100 Mbps auto-sensing for communication with an Ethernet networkOptional EnviroSense2 sensors (sold separately) enable site monitoring of temperature, humidity and contact-closure statusNo Java required

**Modular, Scalable Design for Maximum Flexibility**Modular configuration with hot-swappable power modules and batteries enables easy, fast maintenance with zero downtimeOpen slot for 1 additional 20kVA SV20PM power module accommodates increased capacity up to 80kVA (or 60kVA with N+1 fault

tolerance)Supports external ±120VDC battery options for extended runtimes

**Optional Economy Mode**Up to 99% efficient in optional economy mode to lower operating and cooling costs

**Wide Input/Narrow Output Voltage Operating Range**Enables full continuous online operation during brownouts as low as 121V and overvoltages up to 253VRegulates output voltage within 1% of the selected nominal output voltage in on-line double-conversion mode

**Advanced IGBT Inverter with Digital Signal Processor (DSP) Technology**Provides for less than 2% input total harmonic distortion (THDi) to support 1:1 generator sizing and prevent the need to oversize generator systems relative to UPS capacity

**Automatic and Manual Bypass Options**Keep connected equipment operational during routine maintenance or critical power module failure

# Specifications

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| **OVERVIEW** | |
| UPC Code | 037332237477 |
| UPS Type | On-Line |
| **INPUT** | |
| Input Phase | 3-Phase |
| Rated input current (Maximum Load) | SV60KM3P0B 60kVA Configuration: 180A; Maximum 80kVA Configuration: 240A; 306A maximum inrush current |
| Nominal Input Voltage(s) Supported | 120/208V 3-PH Wye; 127/220V 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 300A 3 pole magnetic breakers |
| Input Frequency | 40 to 70Hz (online mode); 50/60Hz Auto-selectable |
| Power Factor (Input) | Greater than 0.99 (full load) |
| THDi | Less than 2% (full linear load) |
| **OUTPUT** | |
| Output Capacity (VA) | 60000 |
| Output Capacity (kVA) | 60 |
| Output Capacity (Watts) | 54000 |
| Output Capacity (kW) | 54 |
| 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 | 0.9 |
| Crest Factor | 3:1 |

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| 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 Receptacle Details | Output wiring: 3P, N, E |
| Output Circuit Breakers | 300A 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 | 120/208V 3-PH Wye; 127/220V 3-PH Wye |
| Output Receptacles | Hardwire |
| Output Voltage Regulation | ONLINE, FREQUENCY CONVERSION, BATTERY MODE: 208/120, 220/127 ±1% typical (balanced load); ±2% typical (unbalanced load); ECONOMY MODE: 208/120, 220/127 ±15V; BYPASS MODE: +15% (default, adjustable to +10%, +15% or +20%), -20% (default, adjustable to -10%, -20%, -30%) |
| Output Frequency Regulation | ONLINE MODE: Output frequency is ±0.05Hz of input frequency when input is within ±4Hz* of the configured 50/60Hz output setting; Output frequency is ±0.05Hz the configured 50/60Hz output setting when input is outside ±4Hz* of the configured 50/60Hz output setting; BATTERY MODE: Output frequency is ±0.1Hz of the configured 50/60Hz output setting; FREQUENCY CONVERTER MODE: Output frequency is ±0.1Hz of the configured 50/60Hz output setting; ECONOMY MODE: Output frequency equals input frequency up to ±4Hz* 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 ±4Hz* 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 ±4Hz and is user adjustable to ±1Hz, ±2Hz or ±4Hz; The selected TRACKING RANGE setting controls frequency output tolerances as described above in Online, Economy and Bypass modes |
| Output Amp Capacity | Output Amp Capacity 167A (208/120V); 157A (220/127V) |
| Individually Controllable Load Banks | No |
| Modular Upgrade Options | Includes 3 SV20PM 20kVA power modules; Up to 1 additional SV20PM 20kVA power module can be added for additional capacity or enhanced N+1 redundancy; Add 1 SV20PM for 80kVA capacity (or 60kVA with N+1) |
| **BATTERY** | |
| Expandable Runtime | Yes |
| Expandable Runtime Description | External battery pack wiring is contractor supplied. |
| External Battery Pack Compatibility |  <a class="productLink" href="//tripplite.eaton.com/external-240v-battery-cabinet-tripp-lite-sv-series-ups-systems~BP240V370">BP240V370</a> ;  <a class="productLink" href="//tripplite.eaton.com/external-240v-battery-cabinet-only-tripp-lite-sv-series-ups-systems~BP240V370NB">BP240V370NB</a> ;  <a class="productLink" href="//tripplite.eaton.com/ups-battery-pack-for-sv-series-3-phase-1-cabinet-250~EBP240V2501">EBP240V2501</a> ; EBP240V2501NB; EBP240V2502; EBP240V2502NB; EBP240V3501; EBP240V3501NB; EBP240V3502; EBP240V3502NB; EBP240V5001; EBP240V5001NB; EBP240V5002; EBP240V5002NB; EBP240V6002; EBP240V6002NB; EBP240V6003; EBP240V6003NB |
| DC System Voltage (VDC) | ±120VDC |
| Battery Recharge Rate (Included Batteries) | User selectable charging current of 1A to 24A (2A factory setting); Recharge rate for internal batteries is 4.6 hours to 90% capacity (7A charging current) |
| **VOLTAGE REGULATION** | |
| Voltage Regulation Description | Online, double-conversion power conditioning |
| Overvoltage Correction | Maintains continuous output in online mode, without using battery power, during overvoltages to 253V (Ph-Ph), reducing output to within 1% of selected 208/120V, 220/127V nominal output voltage |

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| Undervoltage Correction | Maintains continuous output in online mode, without using battery power, during brownout/undervoltage conditions to 156V (Ph-Ph) at full load and to 121V (Ph-Ph) at 70% output load or less, increasing output to within 1% of selected 208/120V or 220/127V nominal output voltage |
| **USER INTERFACE, ALERTS & CONTROLS** | |
| 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) |
| **SURGE / NOISE SUPPRESSION** | |
| 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 |
| **PHYSICAL** | |
| Primary Form Factor | Tower |
| Cooling Method | Fans |
| Installation Form Factors Supported with Included Accessories | Tower |
| Primary UPS Depth (mm) | 1,100 |
| Primary UPS Height (mm) | 2,010 |
| Primary UPS Width (mm) | 600 |
| Shipping Dimensions (hwd / in.) | 85.62 x 29.52 x 48.03 |
| Shipping Dimensions (hwd / cm) | 217.47 x 74.98 x 122.00 |
| Shipping Weight (lbs.) | 991.00 |
| Shipping Weight (kg) | 449.51 |
| UPS Housing Material | Steel |
| UPS Power Module Dimensions (hwd, in.) | 79.13 x 23.62 x 43.3 |
| UPS Power Module Weight (kg) | 376.94 |
| UPS Power Module Weight (lbs.) | 831 |
| Unit Weight (lbs.) | 831 |
| Unit Weight (kg) | 376.94 |

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| **ENVIRONMENTAL** | |
| Operating Temperature Range | 32° to 104°F (0° to 40°C); De-rates to 90% capacity at 95°F / 35°C and 80% capacity at 104°F / 40°C |
| Storage Temperature Range | 5° to 140°F (-15° to 60°C) |
| Relative Humidity | 0 to 95%, non-condensing |
| AC Mode BTU / Hr. (Full Load) | 18223 |
| AC Economy Mode BTU / Hr. (Full Load) | 715 |
| AC Economy Mode Efficiency Rating (100% Load) | 99% |
| Operating Elevation | 0-3280 ft. (0-1000 m) |
| Audible Noise | Less than 73 DBA front-side, 1m |
| **COMMUNICATIONS** | |
| Network Management Cards | WEBCARDLX;  <a class="productLink" href="//tripplite.eaton.com/Network-Card-Eaton-Tripp-Lite-Series-UPS-Systems~WEBCARDLXE">WEBCARDLXE</a> ; MODBUSCARDSV; RELAYCARDSV |
| 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 software at https://tripplite.eaton.com/products/power-alert |
| Communications Cable | DB9 cabling included |
| SNMP Compatibility | Includes pre-installed WEBCARDLX network interface card |
| Communications Interface | DB9 Serial; EPO (emergency power off); Pre-installed network card; Slot for SNMP/Web interface |
| **LINE / BATTERY TRANSFER** | |
| 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 156V (Ph-Ph) Full load or 121V (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 253V (Ph-Ph), reducing output within 1% of nominal; Above this point, output is maintained utilizing reserve battery power |
| **FEATURES & SPECIFICATIONS** | |
| 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 |
| IP68 Rated | Yes |
| IP20 Rated | No |
| **APPLICATIONS** | |
| UPS Applications | Mission Critical Applications |

| STANDARDS & COMPLIANCE | |
|---|---|
| Protection Rating | IP68 |
| Product Certifications | CSA (Canada); NOM (Mexico); UL 1778 |
| Product Compliance | RoHS; FCC Part 15 Class A (USA) |
| **WARRANTY & SUPPORT** | |
| 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 | Tripp Lite 3-Phase UPS Factory Warranty |

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