

SmartOnline SV Series 120kVA Large-Frame Modular Scalable 3-Phase On-Line Double-Conversion 208/120V 50/60 Hz UPS System

MODEL NUMBER: **SV120KL**



3-phase 120kVA UPS system offers network-grade power protection in a highly configurable, modular and scalable large-chassis rack-width frame. Pre-installed WEBCARDLX network interface allows full remote access 24/7.

Description

The SV120KL SmartOnline® SV Series 120kVA 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 SV120KL includes preinstalled input, bypass and output breakers, as well as a static transfer switch (STS) and six included 20kVA SV20PM power modules. Space is included for up to two additional user-installable SV20PM power modules to accommodate increased capacity up to 140kVA with N+1 fault tolerance. Each power module is rated at 0.9 power factor for maximum power to the connected load. 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 120kVA 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. Batteries are not included. External $\pm 120\text{VDC}$ battery cabinets, such as BP240V370, are sold separately.

Features

120kVA 108kW 3-Phase Large-Chassis UPS System

- Supports 208/120V or 220/127V AC 50/60 Hz Wye 4-wire plus Earth hardwire input and output wiring
- Dual hardwire input design enables operation from up to 2 power sources
- Network-grade sine-wave AC output with 1% output voltage regulation and less than 1.5% output total harmonic distortion
- Tested to UL 1778 (U.S.), CSA (Canada) and NOM (Mexico) standards
- High 0.9 power factor for maximum power to the connected load
- Batteries not included—external $\pm 120\text{VDC}$ battery cabinets, such as BP240V370, sold separately

Pre-Installed WEBCARDLX Network Interface

Highlights

- Scalable capacity up to 140kVA with N+1 redundancy
- 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
- Batteries not included; external battery cabinets sold separately

Package Includes

- SV120KL SmartOnline SV Series 120kVA 3-Phase On-Line Double-Conversion UPS System
- Pre-installed WEBCARDLX network interface
- (6) SV20PM 20kVA power modules (shipped separately)
- Owner's manual

- Allows full remote access for power monitoring, configuration, control and email notifications via secure web browser, SNMP, telnet or SSH
- Supports 10/100 Mbps auto-sensing for communication with an Ethernet network
- Optional EnviroSense2 sensors (sold separately) enable site monitoring of temperature, humidity and contact-closure status
- No Java required

Modular, Scalable Design for Maximum Flexibility

- Modular configuration with hot-swappable power modules enables easy and fast maintenance with zero downtime
- Open slots for up to 2 additional 20kVA SV20PM power modules accommodate increased capacity up to 140kVA with N+1 fault tolerance

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 156V and overvoltages up to 253V
- Regulates 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 3% 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

| OVERVIEW | |
|------------------------------------|---|
| UPC Code | 037332209856 |
| UPS Type | On-Line |
| INPUT | |
| Input Phase | 3-Phase |
| Rated input current (Maximum Load) | SV120KL 120kVA Configuration: 360A; Maximum 140kVA Large Chassis Configuration: 420A; 330A 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 630A 3 pole magnetic breakers |
| Input Frequency | 40 to 70Hz (online mode); 50/60Hz Auto-selectable |
| Power Factor (Input) | 0.99 (full load) |



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| THDi | Less than 3% (full linear load) |
| OUTPUT | |
| Output Capacity (VA) | 120000 |
| Output Capacity (kVA) | 120 |
| Output Capacity (Watts) | 108000 |
| Output Capacity (kW) | 108 |
| 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 |
| 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°; 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 | 630A 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 $\pm 1\%$ typical (balanced load); $\pm 2\%$ typical (unbalanced load); ECONOMY MODE: 208/120, 220/127 $\pm 15\text{V}$; 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 $\pm 0.05\text{Hz}$ of input frequency when input is within $\pm 4\text{Hz}^*$ of the configured 50/60Hz output setting; Output frequency is $\pm 0.05\text{Hz}$ of the configured 50/60Hz output setting when input is outside $\pm 4\text{Hz}^*$ of the configured 50/60Hz output setting; BATTERY MODE: Output frequency is $\pm 0.1\text{Hz}$ of the configured 50/60Hz output setting; FREQUENCY CONVERTER MODE: Output frequency is $\pm 0.1\text{Hz}$ of the configured 50/60Hz output setting; ECONOMY MODE: Output frequency equals input frequency up to $\pm 4\text{Hz}^*$ 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 $\pm 4\text{Hz}^*$ 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 $\pm 4\text{Hz}$ and is user adjustable to $\pm 1\text{Hz}$, $\pm 2\text{Hz}$ or $\pm 4\text{Hz}$; The selected TRACKING RANGE setting controls frequency output tolerances as described above in Online, Economy and Bypass modes |
| Output Amp Capacity | Output Amp Capacity 333A (208/120V); 315A (220/127V) |
| Individually Controllable Load Banks | No |
| Modular Upgrade Options | Includes 6 SV20PM 20kVA power modules. Up to 3 additional SV20PM 20kVA power modules can be added for additional capacity or N+1 availability; Add 1 SV20PM for 140kVA capacity (or 120kVA with N+1 redundancy); Add 2 SV20PM for 140kVA capacity with N+1 redundancy |
| BATTERY | |
| Expandable Runtime | Yes |
| Expandable Runtime Description | External battery pack wiring is contractor supplied. Supports extended runtime with optional external battery packs; 600A 3 pole 250VDC breaker recommended for external battery |

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| Shipping Dimensions (hwd / in.) | 75.00 x 29.00 x 48.00 |
| Shipping Dimensions (hwd / cm) | 190.50 x 73.66 x 121.92 |
| Shipping Weight (lbs.) | 1055.00 |
| Shipping Weight (kg) | 478.54 |
| 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) | 479.90 |
| UPS Power Module Weight (lbs.) | 1058 |
| Unit Weight (lbs.) | 438.7 |
| Unit Weight (kg) | 198.99 |
| 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) | 35558 |
| AC Economy Mode BTU / Hr. (Full Load) | 2673 |
| 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; WEBCARDLXE ; 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 |



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| 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; Hot swappable UPS power module; 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 | No |
| IP20 Rated | No |
| APPLICATIONS | |
| UPS Applications | Mission Critical Applications |
| STANDARDS & COMPLIANCE | |
| 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) | 1-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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