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SmartOnline SV Series 140kVA Large-Frame Modular Scalable 3-Phase On-Line Double-Conversion 208/120V 50/60 Hz UPS System

MODEL NUMBER: **SV140KL7P**





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

- SV140KL7P SmartOnline SV Series 140kVA 3-Phase On-Line Double-Conversion UPS System
- Pre-installed WEBCARDLX network interface
- (7) SV20PM 20kVA power modules
- Owner's manual

Description

The SV140KL7P SmartOnline® SV Series 140kVA 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 SV140KL7P includes pre-installed input, bypass and output breakers, as well as a static transfer switch (STS) and seven included 20kVA SV20PM power modules. Space is included for one additional user-installable SV20PM power module for 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 140kVA 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 ±120VDC battery cabinets, such as Tripp Lite's BP240V370, are sold separately.

Features

140kVA 126kW 3-Phase Large-Chassis UPS System

- Supports 208/120V or 220/127V AC 50/60Hz 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 ±120VDC battery cabinets, such as Tripp Lite's BP240V370, sold separately

Pre-Installed WEBCARDLX Network Interface

- 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 slot for 1 additional 20kVA SV20PM power module for 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

OUTPUT	
Output Volt Amp Capacity (VA)	140000
Output kVA Capacity (kVA)	140
Output Watt Capacity (Watts)	126000
Output kW Capacity (kW)	126
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 Output Voltage(s) Supported	120/208V 3-PH Wye; 127/220V 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 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
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 389A (208/120V); 367A (230/400V)
Modular Upgrade Options	Includes 7 SV20PM 20kVA power modules; Add 1 SV20PM for 140kVA capacity with N+1 redundancy
INPUT	
Rated input current (Maximum Load)	SV140KL7P 140kVA Configuration: 420A; 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 Phase	3-Phase
Input Frequency	40 to 70Hz (online mode); 50/60Hz Auto-selectable
Power Factor (Input)	0.99 (full load)
THDi	Less than 3% (full linear load)
BATTERY	
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; 700A 3 pole 250VDC breaker recommended for external battery
External Battery Pack Compatibility	BP240V370; BP240V370NB
Expandable Runtime Description	External battery pack wiring is contractor supplied
DC System Voltage (VDC)	±120VDC

Battery Recharge Rate (Included Batteries)	User selectable charging current of 1A to 64A (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
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
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	
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.)	1134
UPS Power Module Weight (kg)	514.37
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.)	1324
Shipping Weight (kg)	601.1
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
ENVIRONMENTAL	
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)	42002
AC Economy Mode BTU / Hr. (Full Load)	3817
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)
COMMUNICATIONS	
Communications Interface	DB9 Serial; EPO (emergency power off); Pre-installed network card; Slot for SNMP/Web interface
Network Management Cards	WEBCARDLX
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 http://www.tripplite.com/poweralert
Communications Cable	DB9 cabling included
SNMP Compatibility	Includes pre-installed WEBCARDLX network interface card
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
SPECIAL FEATURES	
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
Green Energy-Saving Features	Greater than 95% efficiency - GREEN UPS; High efficiency economy mode operation; Schedulable daily hours of economy mode operation
CERTIFICATIONS	
UPS Certifications	ROHS (Restriction of Hazardous Substances); Tested to CSA (Canada); Tested to NOM (Mexico); Tested to UL1778 (USA)
UPS Certification Details	UL1778: 2014 5th Edition; CSA C22.2 No. 107.3.14; FCC Part 15 Class A
WARRANTY	
Product Warranty Period (International)	2-year limited warranty