3-Phase 208/220/120/127V 20kVA/kW Double-Conversion UPS - Unity PF, 3 Internal Battery Strings

MODEL NUMBER: **S3M20K3B**











On-line UPS supports the continuous availability of critical loads in a compact footprint without compromising runtime, reliability or functionality.

Features

Battery Backup and VFI Operation Protect Critical Loads
The SmartOnline® S3M20K3B IGBT UPS supports the continuous availability of your most important operational and IT equipment loads through all power conditions, providing a compact backup power platform that's easy to manage and inexpensive to operate. Sophisticated voltage- and frequency-independent (VFI) operation and advanced IGBT rectifier technology with DSP control deliver reliable output power quality. Providing up to 20kVA/kW of clean, continuous power, this 3-phase UPS system is ideally suited for critical applications in banking, education, healthcare, government and manufacturing sectors.

Best-in-Class Footprint for Easy Integration into Your Network Application
The UPS market's smallest footprint for 3-phase 208V systems lets you install the S3M20K3B in spaces that would otherwise have required expensive retrofitting. By achieving its compact size without compromising runtime, reliability or functionality, the S3M20K3B is recommended for data centers, colocation facilities and edge computing environments that require high efficiency, high performance and clean, reliable power protection, while preserving as much space as possible for revenue-generating server racks.

Efficient Operation and Design Reduces Cost of Ownership
ENERGY STAR 2.0-certified technology provides high operational efficiency to save on utility and cooling costs, as well as protect the environment. This UPS achieves up to 94% efficiency in double-conversion mode and up to 98% in ECO mode, reducing your power and cooling costs. Unity output power factor (1.0) lets you support more equipment. A low THDi (<2%) improves generator compatibility. A low THDv (1%) and active power factor correction with DSP control improve output performance. The hardware and firmware platform design reduces the number of unique boards, improving mean time to repair (MTTR) and resulting in reduced downtime. Automatic and maintenance bypass transfer UPS load to utility power during faults, overloads and maintenance, which also avoids costly system downtime.

Supplies Reliable Battery Backup with Expandable Runtime Options
Three internal battery modules provide 16 minutes of support at half load and seven minutes at full load with zero transfer time. Adding external battery cabinets, such as BP240V09K and BP240V09 (sold separately), provides extended runtime and supports critical loads uninterrupted during successive utility network outages. A one-touch cold-start button powers up the UPS with battery power only.

Highlights

- Best-in-class footprint saves space in server room for revenue-generating equipment
- ENERGY STAR 2.0-certified efficiency up to 98% ECO, and up to 94% Online mode helps reduce utility and cooling costs
- Unity output power factor (1.0) allows support of more equipment without overloading
- Optional WEBCARDLXMINI network card allows cost-effective remote management 24/7
- Parallel capability provides increased capacity and redundancy up to 4 units

Applications

- Fit 20kVA/kW UPS and batteries in best-in-class footprint to save space for revenue-generating equipment
- Back up critical IT equipment and data in network, telecom, financial and light industrial applications
- Maintain server-room operations during all power conditions, including short blackouts

Package Includes

- S3M20K3B, 3-Phase 208/220/120/127V 20kVA/kW Double-Conversion UPS
- RS-232 Cable (Male/Female), 5 ft. (1.5 m)
- Parallel Cable (Male/Female), 5 ft. (1.5 m)
- USB Cable, 5 ft. (1.5 m)
- Battery Cable Anderson Connectors Set to Terminate a Battery Cable (2 Black, 2 White, 2 Red and several metal terminals)
- Cable Glands (x6) for Cable Landing Box (waterproof fasteners)
- Dry Contact Connector (Green)
- Owner's Manual

Intuitive LCD Interface Delivers Important Performance Information at a Glance
The large five-inch touchscreen LCD panel displays critical operating conditions and diagnostic data, including battery and load status. Four LEDs provide information about AC, bypass, battery and fault status.

Remote Network Monitoring and Control Available 24 Hours a Day
The optional Java-free WEBCARDLXMINI network management card (sold separately) enables remote management through embedded HTML5 web, SSH/telnet and SNMP interfaces, as well as integration with a wide range of network management systems and DCIM platforms. WEBCARDLXMINI also supports EnviroSense2 (sold separately), which monitors temperature, humidity and other environmental factors. Three MODBUS ports (RS-485, USB, RS-232) may also be used to monitor and manage the UPS. A Remote Emergency Power Off (REPO) port allows shutdown from a safe distance during emergencies.

Parallel Capability Provides Additional Capacity
Connect up to four S3M20K3B units in parallel using separate/shared battery cabinets for 80kVA maximum capacity or N+N fault tolerance redundancy.

Specifications

OVERVIEW	
UPC Code	037332247834
UPS Type	On-Line
INPUT	
Input Phase	3-Phase
Rated input current (Maximum Load)	75.4A /71.1A
Nominal Input Voltage(s) Supported	120/208V 3-PH Wye; 127/220V 3-PH Wye
Nominal Input Voltage Description	3-Phase Wye, 4 wire (L1, L2, L3, N, G)
UPS Input Connection Type	Hardwire
Input Circuit Breakers	80A 3 pole magnetic breaker
Power Factor (Input)	>0.99 (maximum resistive load)
THDi	<2% (100% load)
OUTPUT	
Output Capacity (VA)	20000
Output Capacity (kVA)	20
Output Capacity (Watts)	20000
Output Capacity (kW)	20
Output Capacity Details	Supports parallel connection of up to 4 S3M20K3B systems for 80kVA max capacity or N+N fault tolerance redundancy; Supports up to 100% load continuously, 110% load for 60 minutes, 125% load for up to 10 minutes, 150% load for up to 1 minute and over 150% transfers to bypass mode; Automatic inverter restart is available when the load level recovers to 95% or less after overload-related transfer to bypass
Power Factor	1.0
Crest Factor	3:1

Nominal Voltage Details	Factory default output voltage is 120/208V; Less than 1% THDi (full load resistive); Less than 0.2V Max DC Offset; Less than ±1° Max Phase Angle Deviation; Less than ± 3% Max Voltage Unbalance Deviation
Frequency Compatibility	50 / 60 Hz
Frequency Compatibility Details	Auto-selectable frequency configuration
Output Voltage Regulation (Line Mode)	±1%
Output Voltage Regulation (Economy Line Mode)	±10%
Output Voltage Regulation (Battery Mode)	±1%
Output Circuit Breakers	80A 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
Individually Controllable Load Banks	No
BATTERY	
Runtime Full Load (min.)	7 min. (20kW)
Runtime Half Load (min.)	16 min. (10kW)
Expandable Runtime	Yes
Expandable Runtime Description	External battery pack cabling supplied by contractor or installer
External Battery Pack Compatibility	BP240V09-NIB ; BP240V09K
DC System Voltage (VDC)	±120 VDC
Battery Recharge Rate (Included Batteries)	Up to 8 hours to 90%; Battery charge current adjustable from 1 to 20A (2.7A factory default)
Typical Battery Lifespan	Life span depends on ambient temperature and battery maintenance
VOLTAGE REGULATION	
Voltage Regulation Description	Online, double-conversion power conditioning maintains ±1% output voltage regulation
Overvoltage Correction	Maintains continuous operation without using battery power during overvoltages up to 275 VAC
Undervoltage Correction	Maintains continuous operation without using battery power during brownout/undervoltage conditions to 125Vac
USER INTERFACE, ALERTS & CONTROLS	
Front Panel LCD Display	Large touchscreen color LCD display (5in/ 12.7cm) enables comprehensive local monitoring, diagnostics and control through an advanced, intuitive and user-friendly interface. The display has seven sub-screens: HOME, STATUS, ALARM, SETTING, MAINT, COMMON and ABOUT. Each of these screens is intuitive and comprehensive providing specifics from voltages, frequencies, battery charge status, system operating mode (online, standby, ECO, Battery, fault) status, specific measurement in every operating mode, current and event history to enable diagnostics and system fault troubleshooting. It is powerful local management tool at your fingertips. LCD supports English, Spanish and French.

Switches	POWER button turns UPS system on and off; EPO (Emergency Power Off) button turns UPS output off and disables Bypass output, and Cold Start Button turns UPS on with batteries in battery mode.
Alarm Cancel Operation	Alarm can be silenced in sub-screen ALARM by muting the buzzer.
Audible Alarm	Alarms signal a variety of operational conditions: low-battery, overload, shutdown, bypass and more
LED Indicators	Four LEDs indicate AC mode (Green), Bypass (Yellow), Battery (Yellow) and Fault (Red) modes
SURGE / NOISE SUPPRESSION	
EMI / RFI AC Noise Suppression	Yes
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)	900
Primary UPS Height (mm)	868
Primary UPS Width (mm)	250
Shipping Dimensions (hwd / in.)	41.61 x 14.37 x 39.92
Shipping Weight (kg)	265.81
UPS Housing Material	Steel
UPS Power Module Dimensions (hwd, in.)	34.17 x 9.84 x 35.43
Unit Dimensions (hwd / in.)	34.170 x 9.840 x 35.430
Unit Weight (lbs.)	527
Unit Weight (kg)	239.04
ENVIRONMENTAL	
Operating Temperature Range	32° to 104°F (0° to 40°C)
Storage Temperature Range	32° to 95° F (0° to 35°C) (with batteries installed) 5° to 140° F (-15° to 60°C) (without batteries)
Relative Humidity	Up to 95%, non-condensing
AC Mode BTU / Hr. (Full Load)	4515
AC Economy Mode BTU / Hr. (Full Load)	930
AC Mode Efficiency Rating (100% Load)	93%
AC Economy Mode Efficiency Rating (100% Load)	97.3%
Operating Elevation	0-3280 ft. (0-1000 m)
Audible Noise	Less than 60dBA at 1m

COMMUNICATIONS	
Network Management Cards	WEBCARDLX; WEBCARDLXMINI
Network Monitoring Port Description	Additional built-in set of INPUT and OUTPUT contacts support remote notification of Online Mode operation, Battery Mode operation, Bypass Mode operation, Abnormal Bypass Mode Source, Battery Test Failure and Low Battery conditions
PowerAlert Software	Available via free download from https://tripplite.eaton.com/products/power-alert
Communications Cable	DB9 (RS-232) cabling included USB Cable Paralleling UPS cable
Communications Interface	DB9 Serial; EPO (emergency power off); RS-232; Slot for SNMP/Web interface; USB-B
LINE / BATTERY TRANSFER	
Transfer Time	Online mode: No transfer time (0 ms.); (AC to battery and Inverter to Bypass, 0 ms)
Low Voltage Transfer to Battery Power (Setpoint)	Maintains continuous operation without using battery power during brownout/undervoltage conditions down to 125VAC (at <50% load). Below this 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 275VAC. Above this point, output is maintained utilizing reserve battery power
FEATURES & SPECIFICATIONS	
Cold Start (Startup in Battery Mode During a Power Failure)	Cold-Start dedicated button on the back of the UPS
High Availability UPS Features	Auto Probe Monitoring and Reboot (requires WEBCARDLXMINI); Automatic inverter bypass; Manual bypass switch; On-Line/Double-Conversion; On-Line (VFI) Operation; Pure sine wave output; Remote management; Sine wave output; Surge/noise protection; Zero transfer time
Green Energy-Saving Features	High efficiency economy mode operation; Schedulable daily hours of economy mode operation
Grounding Details	Yes
IP68 Rated	No
IP20 Rated	No
APPLICATIONS	
UPS Applications	Mission Critical Applications
STANDARDS & COMPLIANCE	
Product Certifications	RETIE (Colombia); CSA (Canada); UL 1778
Product Compliance	ENERGY STAR Qualified; FCC Part 15 Class B (USA); REACH; RoHS
WARRANTY & SUPPORT	
Product Warranty Period (U.S. & Canada)	2-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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