UPS SYSTEMS









Tripp Lite UPS Systems

Reliable, efficient, manageable power and battery backup







Reliable, efficient, manageable power and battery backup • Reliable, efficient,



Introduction

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Network/Server UPS Systems

LINE-INTERACTIVE OPERATION

SmartPro® Rack/Tower UPS 6-9 SmartPro Tower UPS 10-11

ON-LINE OPERATION

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Desktop UPS Systems

LINE-INTERACTIVE OPERATION

Tower and Low-Profile UPS 26-27

Integrated Solutions

Racks, Cooling, PDUs, KVMs 28 and Cables

Desktop UPS Systems

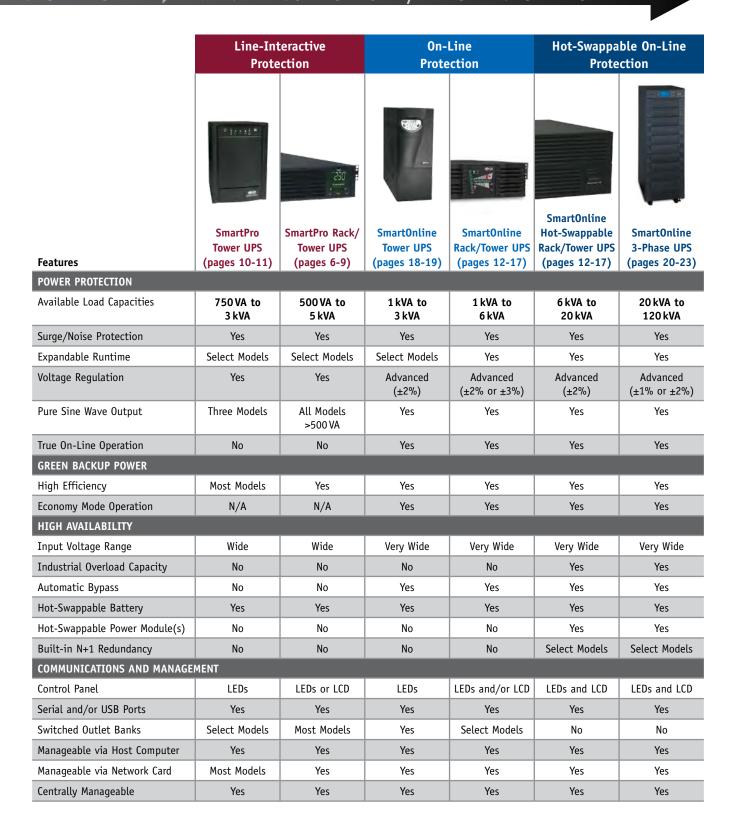
EXTRA PROTECTION / HIGHER CAPACITY > EXTRA PROTECTION /

	Line-Interactive Protection	Line-Interactive / On-Line Protection				
	Digital, OmniVS® and AVR Series	©				
Features	Line-Interactive UPS (pages 26-27)	Small Network/Server UPS* (≤1500 VA – see page 5)				
POWER PROTECTION	,					
Available Load Capacities	550 VA to 1 500 VA	500 VA to 1 500 VA				
Surge/Noise Protection	Yes	Yes				
Data Line Protection	Select Models	Select Models				
Voltage Regulation	Yes	Yes				
Expandable Runtime	Two Models	Select Models				
CONVENIENCE						
Compact Form Factors	Low-Profile or Tower	Tower or Rack/Tower				
Simple Operation	Yes	Yes				
GREEN BACKUP POWER						
High Efficiency	Most Models	Most Models				
COMMUNICATIONS AND MANAGE	MENT					
Diagnostic LEDs	Most Models	Select Models				
LCD Status Screen	Digital (LCD) Models	Select Models				
Serial and/or USB Ports	Yes	Yes				
Switched Outlet Banks	No	Select Models				
Manageable via Host Computer	Yes	Yes				
Centrally Manageable	Yes	Yes				

^{*} Although small Network/Server UPS Systems can be ideal for important desktop applications (such as protecting critical workstations), some Network/Server UPS Systems have high-speed cooling fans that may not be suitable for low-noise environments. Contact your Tripp Lite representative for assistance if you are considering this option.

Network/Server UPS Systems

GHER CAPACITY > EXTRA PROTECTION / HIGHER CAPACITY



A Extended Runtime Capability

Select models feature connectors that accept optional external battery packs for additional runtime. External batteries can be "hot-swapped". Go to www.tripplite.com/runtime for interactive runtime charts for every UPS model.

B Switched Outlet Banks

Prioritize the uptime of missioncritical loads during a power failure. Select models feature switched outlet banks that you can control independently through PowerAlert software. Use PowerAlert to reboot a locked-up computer or to shut down less important systems during extended blackouts, preserving battery runtime for critical equipment.

C Accessory Card Slot

Accepts optional internal SNMPWEBCARD



or RELAYIOCARD. SNMPWEBCARD provides network interface for monitoring and control via SNMP, Web, SSH or telnet, enabling remote reboots, shutdowns and more. Use with optional ENVIROSENSE to monitor temperature and humidity or to monitor alarms and security systems. RELAYIOCARD provides a programmable contact closure interface with

6 outputs and 1 input. D Flexible Output Options

C13 and/or C19 outlets ensure maximum compatibility with equipment worldwide.

(F) Communication Ports

Built-in USB and/or serial ports simultaneously provide shutdown commands and reporting on multiple servers.

Short Circuit Protection

Breakers safeguard your

Breakers safeguard your equipment and the UPS.

- **G** Emergency Power Off (EPO)

 A jack included with all models allows remote emergency shutdown.
- (H) AC Input Connector
 C14 or C20 inlet (depending on model) connects to a user-

model) connects to a usersupplied cord and plug compatible with local AC outlets.

Hardwire Input

Front Panel Battery Replacement (Not Shown)

Most models feature a removable panel which allows for internal battery replacement.* Internal batteries can be "hot-swapped".

* Tripp Lite offers a complete line of replacement battery cartridges (R.B.C.) at www.tripplite.com.

Mounting Hardware (Not Shown)

Included mounting hardware supports 4-post rack installation. 1U models also support tower and 2-post rack installation. 2U and larger models require optional mounting accessories for tower or 2-post rack installation.

Specifications

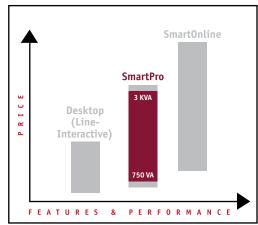
									RoH		
Model	Output Capacity	Typical Half-Load Runtime ⁽¹⁾	Extended Runtime	Total Rack Size	Nominal AC Voltage (50/60 Hz)	AC Outlet Quantity (Type) [Switched Outlet Banks]	USB Ports	DB9 Serial Ports ⁽²⁾	AC Input Connecto		
SmartPro Single-Pha											
SMX500RT1U	500 VA/300 W	14,6 min.	-	- 1U	230 (220/230/240)	7 (C13) [1x1]	1	1	C14		
SMX1000RT2U	1000 VA/700 W	21 min.	-	2U	230 (220/230/240)	6 (C13) [2x2]	1	1	C14		
⇒ SMX1500XLRT2U	1500 VA/1350 W	13,6+ min.	A	2U	230 (220/230/240)	8 (C13) [2x2]	1	1	C14		
⇒ SMX2200XLRT2U	2200 VA/1920 W	11,9+ min.	В	2U	230 (220/230/240)	8 (C13) [2x1]	1	1	C20		
⇒ SMX3000XLRT2U	3000 VA/2250 W	11+ min.	В	2U	230 (220/230/240)	8 (C13), 1 (C19) [3x2]	1	1	C20		
⇒ SMX3000XLRT2UA	3000 VA/2700 W	11,1+ min.	В	2U	230 (220/230/240)	8 (C13), 1 (C19) [2x1]	1	1	C20		
⇒ SMX5000XLRT3U	5000 VA/3750 W	20+ min.	В	3U	230 (220/230/240)	8 (C13), 3 (C19)	1	1	Hardwire		
Optional External Bat	Optional External Battery Packs										
▲ BP36V15-2U	36 V external battery pack and cable. Gray 2-pole connector. 2U rack/tower cabinet. Not expandable.										
A BP36V27-2US	36 V external battery pack and cable. Gray 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.										
A BP36V42-3U	36 V external battery pack and cable. Gray 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.										
B BP48V24-2U	48 V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Not expandable.										
B BP48V27-2US	48 V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.										
B BP48V60RT-3U	48 V external battery pack and cable. Blue 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.										
Additional Accessorie	ssories										
2-9USTAND	Base stand kit adapts rackmount cabinets for tower installation. Adjusts from 2U to 9U. Two kits adjust from 10U to 14U.										
2POSTRMKITHD	Heavy-duty 2-post rack mounting kit for 2U to 4U UPS cabinets. Order one kit per cabinet.										
ENVIROSENSE	Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors and controls contact-closure devices.										
RELAYIOCARD	Adds programmable	contact-closure	interface. Inc	ludes six o	outputs and one input.						
	Adds network interface to UPS systems for remote management via SNMP, Web, SSH or telnet, including free PowerAlert software.										

Certifications vary by model. All models include an accessory card slot. (1) Runtime varies with load, battery condition and other factors. (2) Select DB9 ports support contact-closure communications.

Model with expandable runtime. Model with LCD.

SmartPro Line-Interactive Tower UPS Systems





Protect Every Application

SmartPro Tower UPS Systems are available in a wide variety of capacities to protect every size computer application from downtime, damage and data loss due to power problems. SmartPro Tower UPS Systems provide protection against all types of power problems, including brownouts, blackouts, surges and line noise. Line-interactive operation—also known as automatic voltage regulation (AVR)—keeps equipment working through low voltage (brownouts) and high voltage conditions indefinitely, without draining battery power. SmartPro Tower UPS Systems provide reliable battery power to keep computers up and running through short blackouts and allow enough time to save data and shut down during longer ones. In addition, all AC outlets stop damaging surges and filter disruptive line noise.

Control Individual Outlets

Prioritize the uptime of mission-critical loads during a power failure with switched outlet banks featured on select models. Use PowerAlert to reboot a locked-up computer by cycling the power on and off to select outlets on the UPS system. You can also program PowerAlert to shut down less important systems during an extended blackout, preserving battery runtime for critical equipment.

Manage Multiple Servers

Multiple built-in communication ports provide the ability to simultaneously manage multiple servers without the need for accessories. Using PowerAlert software, select models with multiple communication ports will simultaneously provide intelligent communications, shutdown commands and reporting on multiple servers—even if they are running different operating

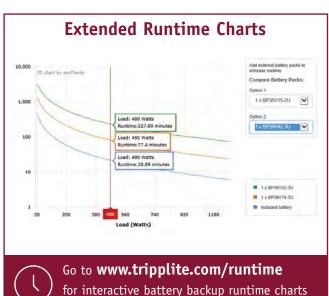
* Additional PowerAlert features: pages 24-25.

- > 750 to 3000 VA
- Internal Batteries and Extended Runtime Options
- ► Automatic Voltage Regulation (AVR)

Extend Runtime

Select models accept external battery packs to provide extended runtime. Without enough runtime, businesses stand to lose up to \$70,000 (USD) per hour according to a survey on the cost of lost productivity for an hour of network downtime.*

* IDC.



for every UPS model.

A Extended Runtime Capability
Select models feature
connectors that accept optional
external battery packs for additional
runtime. External batteries can be
"hot-swapped". Go to
www.tripplite.com/runtime for interactive runtime charts for every UPS model.

B Switched Outlet Banks

Prioritize the uptime of mission-critical loads during a power failure. Select models feature switched outlet banks that you can control independently through PowerAlert software. Use PowerAlert to shut down less important systems first, preserving battery runtime for critical equipment.

C Communication Ports

Built-in USB and/or serial ports simultaneously provide shutdown commands and reporting on multiple servers.

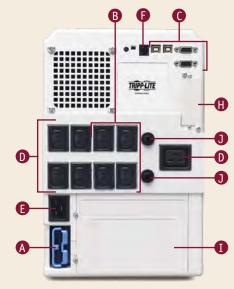
Flexible Output Options

C13 and/or C19 outlets ensure maximum compatibility with equipment worldwide.

AC Input Connector

SNMPWEBCARD

C14 or C20 inlet (depending on model) connects to a user-supplied cord and plug compatible with local AC outlets.



SMARTINT3000VS Rear Panel

6 Emergency Power Off (EPO)

A jack on select models allows remote emergency shutdown.

G Tel/DSL/Ethernet Surge Protection (Select Models, Not Shown)

Protect computers from damage on a single telephone or Ethernet line.

Accessory Card Slot

Accepts optional internal SNMPWEBCARD or RELAYIOCARD.



SNMPWEBCARD provides network interface for monitoring and control via SNMP, Web, SSH or telnet, enabling remote reboots, shutdowns and more. Use with optional ENVIROSENSE to monitor temperature and humidity or to control and monitor alarms. RELAYIOCARD provides programmable contact closure interface with 6 outputs and 1 input.

Battery Replacement

Tripp Lite UPS batteries will protect equipment for several years with normal use. Most models feature a removable panel which allows for internal battery replacement*. Internal batteries can be "hot-swapped".

Short Circuit Protection

Performance Conditions Displayed

Front panel LEDs alert you to a variety of performance conditions, including AC line present, automatic voltage regulation, UPS load level and replace battery.

* Tripp Lite offers a complete line of replacement battery cartridges (R.B.C.) at www.tripplite.com.

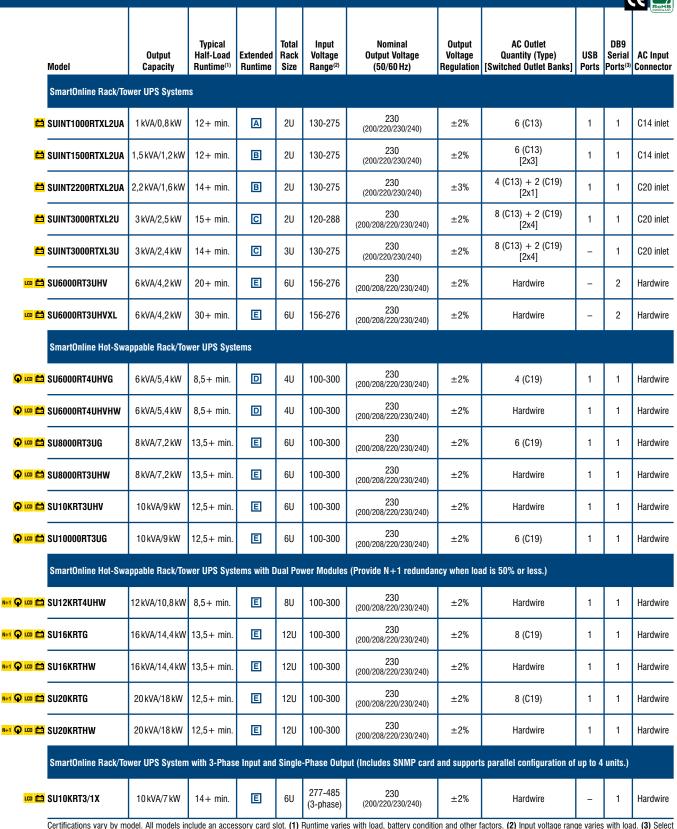
Specifications Typical Nominal DR9 **Data Line AC Outlet** Output Half-Load Extended **AC Voltage** USB Serial SNMP Surge **AC Input** Quantity (Type) Model Capacity Runtime(1) Runtime (50/60 Hz) **Ports** Ports(2) SInt Protection Connector [Switched Outlet Banks] SmartPro Single-Phase Tower UPS Systems with Pure Sine Wave Output from Battery SMX750SLT 750 VA/500 W 15 min. 230 (220/230/240) 6 (C13) 1 1 γ Tel/Network C14 SMX1050SLT 1050 VA/650 W 20 min 230 (220/230/240) 8 (C13) 1 1 Υ Tel/Network SMX1500SLT 1500 VA/900 W 20 min. 230 (220/230/240) 8 (C13) 1 1 Υ Tel/Network C14 SmartPro Single-Phase Tower UPS Systems SMARTINT1500 1500 VA/940 W 2 N C14 20 min. 230 (220/230/240) 6 (C13) SMARTINT2200VS 2200 VA/1600 W 2 Υ 19 min. 230 (220/230/240) 8 (C13), 1 (C19) [3x2] 2 C20MARTINT3000VS 3000 VA/2250 W Α 8 (C13), 1 (C19) [3x2] 2 2 C20 14+ min. 230 (220/230/240) **Optional External Battery Packs** 48 V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Not expandable. A BP48V24-2U **A** BP48V27-2US 48 V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain. A BP48V60RT-3U 48 V external battery pack and cable. Blue 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain. **Additional Accessories ENVIROSENSE** Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors and controls contact-closure devices. RELAYIOCARD Adds programmable contact-closure interface. Includes six outputs and one input.

Visit www.tripplite.com/smartpro for the latest specifications, including weights and dimensions.

Adds network interface to UPS systems for remote management via SNMP, Web, SSH or telnet, including free PowerAlert software.

Certifications vary by model. (1) Runtime varies with load, battery condition and other factors. (2) Select DB9 ports support contact-closure communications. 📛 Model with expandable runtime.

Specifications



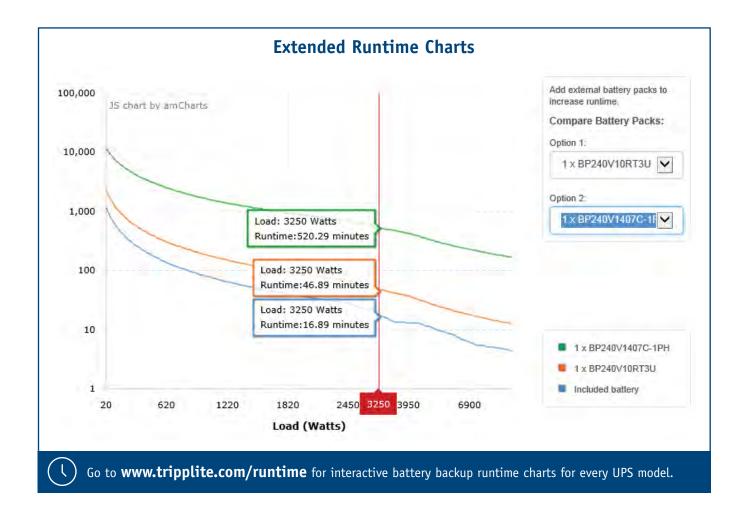
Certifications vary by model. All models include an accessory card slot. (1) Runtime varies with load, battery condition and other factors. (2) Input voltage range varies with load. (3) Select DB9 ports support contact-closure communications.

莤 Model with expandable runtime. 😐 Model with LCD. 😡 Model with hot-swappable power module(s). 🙌 Model with built-in N+1 redundancy.

Specifications

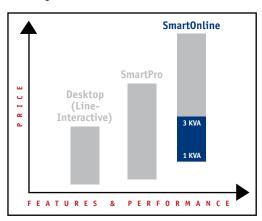


Model	Description	RoHS
Optional External Batt	ery Packs	
A BP24V15RT2U	24V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Not expandable.	
A BP24V28-2U	24V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Not expandable.	
A BP24V36-2US	24V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.	
A BP24V70-3U	24V external battery pack and cable. Red and black 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.	
B BP48V24-2U	48V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Not expandable.	
B BP48V27-2US	48V external battery pack and cable. Blue 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.	
B BP48V60RT-3U	48V external battery pack and cable. Blue 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.	
C BP72V15-2U	72V external battery pack and cable. Black 3-pole connector. 2U rack/tower cabinet. Not expandable.	
© BP72V18-2US	72V external battery pack and cable. Black 3-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.	
© BP72V28RT-3U	72V external battery pack and cable. Black 3-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.	
□ BP192V12-3U	192 V external battery pack and cable. Black 3-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.	
E BP240V10RT3U	240 V external battery pack and cable. Black 3-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.	
Additional Accessorie	s	
2-9USTAND	Base stand kit adapts UPS systems for tower installation. Adjusts from 2U to 9U. Two kits adjust from 10U to 14U. Included with select UPS models.	
2POSTRMKITHD	Heavy-duty 2-post rack mounting kit for 2U to 4U UPS cabinets. Order one kit per cabinet.	
ENVIROSENSE	Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors and controls contact-closure devices.	
MODBUSCARD	Accessory card adds interface for MODBUS RTU industrial communications protocol, RS-422/485 and RS-232.	
RELAYIOCARD	Accessory card adds programmable contact-closure interface. Includes six outputs and one input.	
RELAYIOMINI	Miniature accessory card adds contact-closure port (DB9) to select UPS systems. Replaces USB port.	
SNMPWEBCARD	Adds network interface to UPS systems for remote management via SNMP, Web, SSH or telnet, including free PowerAlert software.	



SmartOnline True On-Line Tower UPS Systems





Deliver True On-Line, Pure Sine Wave, Zero Transfer Time Operation

SmartOnline Tower UPS Systems provide mission-critical equipment with the highest level of power protection. Double-conversion technology continually converts incoming AC power into filtered DC power, and then resynthesizes it back into AC power with a pure sine wave. Constant on-line operation completely isolates sensitive equipment from every power problem on the AC line. SmartOnline models accept the widest range of incoming voltage and frequency variations, delivering the most consistently pure, highly-regulated power: ±2% VAC.

SmartOnline Tower UPS Systems provide reliable battery power with zero transfer time to keep networks up and running through short blackouts and allow enough time to save data and shut down during longer ones. In addition, they stop damaging surges and filter disruptive line noise. All models ensure maximum availability with an automatic internal bypass which passes through utility power in the event of an internal fault or overload.

Manage Multiple Servers

Using PowerAlert software, simultaneously manage multiple servers—even if they are running different operating systems.* Intelligent communications allow you to check UPS status (including battery charge level and runtime remaining) and AC power status. You can use PowerAlert to reboot a locked-up server by cycling the power to select UPS outlets or shut down nonessential systems during a blackout, preserving runtime for critical equipment.

* Additional PowerAlert features: pages 24-25.

Save Electricity and Reduce Costs

SmartOnline UPS Systems are up to 97% efficient in economy mode, a potential increase of 10% or more versus comparable on-line UPS systems. Economy mode can make your data center significantly cooler, greener and more cost-effective.

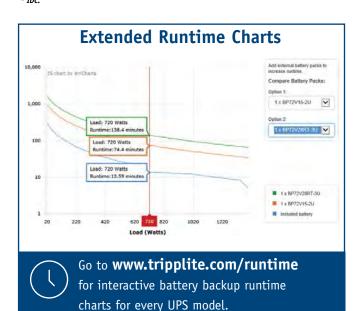
TRUE ON-LINE

- ▶ 1000 to 3000 VA
- ► Zero Transfer Time, Double Conversion
- ► Wide Input Voltage Range with Precision-Regulated Output
- Automatic Internal Bypass
- Internal Batteries and Extended Runtime Options

Extend Runtime

Select models accept external battery packs to provide extended runtime. Without enough runtime, businesses stand to lose up to \$70,000 (USD) per hour according to a survey on the cost of lost productivity for an hour of network downtime.*

* IDC.



Feature Focus

A Extended Runtime Capability

Select models feature connectors that accept optional external battery packs for additional runtime. External batteries can be "hot-swapped". Go to www.tripplite.com/runtime for interactive runtime charts for every UPS model.

B Flexible Output Options

 ${\sf C13}$ outlets ensure maximum compatibility with equipment worldwide.

C Accessory Card Slot

Accepts optional internal SNMPWEBCARD or RELAYIOCARD. SNMPWEBCARD provides network interface for monitoring and control via SNMP, Web, SSH or telnet, enabling remote reboots, shutdowns and more. Use with optional ENVIROSENSE to monitor temperature and humidity. RELAYIOCARD provides a programmable contact closure interface with 6 outputs and 1 input.

D Communication Port

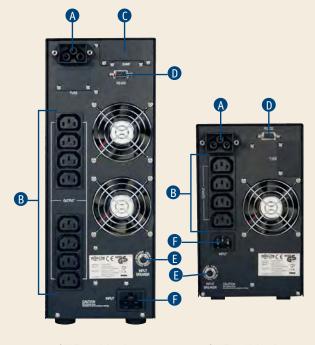
Built-in serial port provides shutdown commands and reporting.

E Short Circuit Protection

Breakers quard against short circuits and overloads.

AC Input Connector

C14 or C20 inlet (depending on model) connects to a usersupplied cord and plug compatible with local AC outlets.



SUINT3000XL Rear Panel

SUINT1000XL Rear Panel

Display Critical Operational Conditions

SmartOnline Tower UPS Systems feature a front panel LCD or LED display which displays a variety of UPS operational modes and conditions. This interface provides more information than comparable models, allowing you to react more rapidly to an alert before your systems are put at risk.



Specifications

									ROHS		
	Model	Output Capacity	Typical Half-Load Runtime ⁽¹⁾	Extended Runtime	Input Voltage Range ⁽²⁾	Nominal Output Voltage (50/60 Hz)	Output Voltage Regulation	AC Outlet Quantity (Type)	DB9 Serial Ports ⁽³⁾	Accessory Card Slot	AC Input Connector
SmartOnline Tower UPS Systems											
	SUINT1000XL	1 kVA/0,7 kW	14 min.	-	80-280	230 (220/230/240)	±2%	4 (C13)	1	N	C14 inlet
H	SUINT2000XL	2 kVA/1,4 kW	14+ min.	A	80-280	230 (220/230/240)	±2%	8 (C13)	1	Y	C20 inlet
	SUINT3000XL	3 kVA/2,1 kW	14+ min.	A	80-280	230 (220/230/240)	±2%	8 (C13)	1	Y	C20 inlet
Optional External Battery Packs											
	▲ BP72V15-2U	72V external battery pack and cable. Black 3-pole connector. 2U rack/tower cabinet. Not expandable.									
	▲ BP72V18-2US	72 V external battery pack and cable. Black 3-pole connector. 2U rack/tower cabinet. Expandable via daisy chain.									
	▲ BP72V28RT-3U	72V external battery pack and cable. Black 3-pole connector. 3U rack/tower cabinet. Expandable via daisy chain.									
	Additional Accessories	Accessories									
	ENVIROSENSE	Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors and controls contact-closure devices.									
	RELAYIOCARD	Adds programmable contact-closure interface. Includes six outputs and one input.									
	SNMPWEBCARD	Adds network interface to UPS systems for remote management via SNMP, Web, SSH or telnet, including free PowerAlert software.									

Model with expandable runtime.

Certifications vary by model. (1) Runtime varies with load, battery condition and other factors. (2) Input voltage range varies with load. (3) Select DB9 ports support contact-closure communications.

SmartOnline Modular 3-Phase

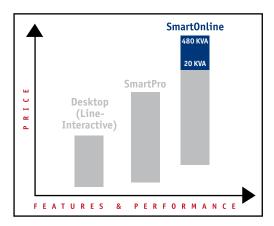
True On-Line Tower UPS Systems



Deliver True On-Line, Pure Sine Wave, Zero Transfer Time Operation

SmartOnline Modular 3-Phase UPS Systems provide missioncritical equipment with the highest level of power protection. Double-conversion technology continually converts incoming AC power into filtered DC power, and then resynthesizes it back into AC power with a pure sine wave. Constant on-line operation completely isolates sensitive equipment from every power problem on the AC line. SmartOnline Modular 3-Phase UPS Systems automatically correct the widest range of incoming voltages of any models in their class. A wider voltage correction range saves battery power and decreases battery wear by up to 40%, reducing battery replacement costs. SmartOnline Modular 3-Phase models provide reliable battery power with zero transfer time to keep networks up and running safely through short blackouts and allow enough time to safely shut down or switch to generator backup during longer ones. In addition, all models stop damaging surges and filter disruptive line noise.

SmartOnline Modular 3-Phase UPS Systems are ideal for protecting critical equipment in computing, networking or telecommunications environments.



TRUE ON-LINE

- ▶ 20 to 120kVA (Up to 480kVA in Parallel)
- ► 3-Phase Hardwire (230/400V)
- ► N+1 Modular Architecture
- ► Parallel Capability with Patented DSP Control
- Low THDi for 1:1 Generator Sizing
- ► Zero Transfer Time, Double Conversion
- Advanced IGBT Rectifier and Inverter Technology with Power Factor Correction (PFC)

Save Installation Costs (1:1 Generator Sizing)

SmartOnline Modular 3-Phase UPS Systems include a generator-friendly design that lowers installation costs. The SmartOnline UPS System's high input power factor and Digital Signal Processor (DSP) technology create less than 4% input Total Harmonic Distortion (THDi), enabling a 1:1 sizing of the UPS System to a generator set. Generators are affected by the THDi that a UPS system passes back through its input into the overall power system. If the THDi is high, managers are forced to oversize generators in order to compensate. With the SmartOnline UPS System's low THDi, generators run cooler and last longer, allowing managers to save installation costs by installing a generator with a capacity equal to their equipment load (a 1:1 ratio). In addition, low THDi eliminates the need to oversize cables and breakers and eliminates nuisance breaker tripping and overheated transformers.

Save Operating Costs

SmartOnline Modular 3-Phase UPS
Systems include advanced IGBT
inverter technology that provides
the highest efficiency (up to 96%
in economy mode) of any UPS
system in their class. High
efficiency operation lowers UPS
system operating and related
cooling costs and lengthens UPS
system service life. Since inverter
components are smaller, SmartOnline
models also save significant
facility floor space compared to
legacy systems.

Include Additional Availability Features

A manual bypass breaker as well as an automatic bypass function included on SmartOnline Modular 3-Phase UPS Systems ensure the constant availability of connected equipment by safely passing through AC power if the UPS system requires maintenance. In addition, a battery cold-start function (initiated through the control panel) allows you to restart your UPS system and connected equipment during an extended blackout for periodic system access or retrieval of vital data.

Provide Optional Extended Service / Support Programs

Start-Up and On-Site Service
Programs are recommended and
available separately to enhance
the reliability of the installation.
Preventative maintenance services
are also available for added peace
of mind.

Provide Maximum System Availability

with N+1 Modular Architecture and Parallel Capability

N+1 Modular Architecture

Maximum Availability with N+1 Redundancy

- Multiple, Redundant Power Modules
- Dual, Redundant Controller Power Supplies

SmartOnline Modular 3-Phase UPS Systems 40 kVA and above include multiple, self-contained power modules that provide fail-safe redundancy. In an N+1 configuration, a power module can be hot-swapped (with the load powered) if maintenance is required.



20 kVA Redundant Power Module

Modular Architecture Provides N+1 (and Greater) Redundancy

	Connected Load ("N")								
UPS Capacity	20 kVA	40 kVA	60 kVA	80 kVA	80 kVA 100 kVA 120 kVA				
20 kVA	N	-	-	-	-	-			
40 kVA	N+1	N	-	-	-	-			
60 kVA	N+2	N+1	N	-	-	-			
80 kVA	N+3	N+2	N+1	N	-	-			
100 kVA	N+4	N+3	N+2	N+1	N	-			
120kVA	N+5	N+4	N+3	N+2 N+1		N			

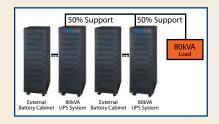




Parallel Capability

Provides Redundancy

Connect two or more SmartOnline UPS Systems in parallel to provide redundancy for the power distribution system. If one UPS is removed or taken offline for maintenance, the second UPS supports the equipment load automatically—without requiring additional programming.

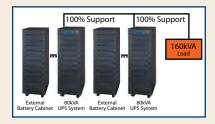


Patented dual DSP technology provides state-of-the-art parallel control.

Increases Capacity

Connect SmartOnline Modular 3-Phase UPS Systems in parallel to increase the capacity offered to a single equipment load.

Note: UPS systems connected in parallel must have the same capacity and voltage. Parallel connection also requires a parallel tie cabinet.



UPS System Power Module Cabinet

The UPS System's power module cabinet delivers true on-line, pure sine wave power to connected equipment.



Extended Runtime Capability (Rear Panel Access, Not Shown)



20 kVA and 40 kVA models include internal batteries. Other models require a stand-alone, hardwire external battery cabinet (bundled or available separately from Tripp Lite) to provide battery backup. All models accept connection of additional external battery cabinets for extended runtime. Contact Tripp Lite for a runtime solution customized for your application.

Advanced Communications Capabilities

A RS-232 Interface

Provides shutdown commands and reporting on a single server.

B Accessory Card Slot

Accepts optional internal SNMPWEBCARD. SNMPWEBCARD provides network interface for monitoring and control via SNMP, Web, SSH or telnet, enabling remote reboots, shutdowns and more. Use with optional ENVIROSENSE to monitor temperature and humidity or to control and more.



temperature and humidity or to control and monitor alarms and security systems.

Parallel Interface

Allows multiple UPS systems to support a single equipment load.

Dry-Contact Interface (Including "EPO" Emergency Power Off Function)

Allows remote emergency shutdown of the UPS system. Also allows the UPS system to monitor a variety of input/output conditions, including external battery module conditions.

Hardwire, 3-Phase (4-Wire, Wye) Output (Rear Panel Access, Not Shown)

Connects the power module directly to your equipment or a PDU (power distribution unit).

Hardwire, 3-Phase (4-Wire, Wye) Input (Rear Panel, Not Shown) Connects the power module directly to the 3-Phase utility power source.

(E) Cooling Fans

Keep UPS system at optimal operating temperature, prolonging service life.

Rolling Casters and Levelers

Provide added mobility and stability during installation.

6 Multiple, Redundant Hot-Swappable 20 kVA Power Modules

All SmartOnline Modular 3-Phase UPS Systems include multiple, selfcontained power modules that provide the ultimate level of fail-safe redundancy. In an N+1

redundancy. In an N+1 configuration, a power module can be hot-swapped (with the load powered) if maintenance is required.



20kVA Redundant Power Module

H Bypass Operation

A manual bypass breaker as well as an automatic static bypass ensure maximum availability of connected

equipment by safely passing through AC power if the UPS system requires maintenance.



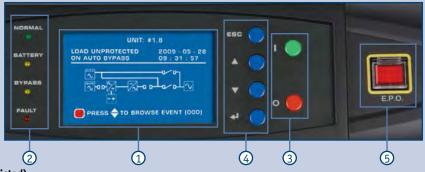
Short Circuit Protection

Breakers safeguard your equipment, the UPS system and your electrical infrastructure against potential damage due to input or output short circuits and system overloads.

Display and Control Panel

This interface indicates a variety of UPS operational modes and conditions, allowing you to react more rapidly to an alert before your systems are put at risk.

① LCD Screen: lets you access more precise information than provided by LEDs alone. Text and intuitive operational block diagrams communicate a variety of fault/warning and UPS system operational conditions.



Real-Time Event Log Screen (Up to 500 Events Listed)

Event log helps you decisively react to changing conditions by providing a broader context of UPS operation.

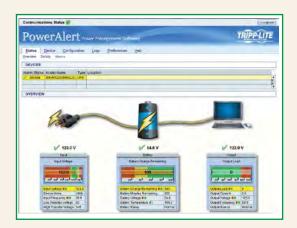
Dynamic Battery Management Screen

Use the LCD display and control buttons to select optional settings for charge current and battery equalization—lengthening battery service life. Also use the control panel to "cold start" the UPS system.

- (2) LED Set: indicates normal on-line operation, on-battery operation, bypass operation or an input fault condition.
- ③ Inverter On/Off Buttons
- 4 LCD Screen Control Buttons
- (5) "EPO" (Emergency Power Off) Button: onsite safety measure (covered to protect against accidental contact) completely shuts down the UPS.

Specifications Typical Output AC Input Input Voltage Output Half-Load Extended Voltage Output Nominal Input/Output Voltage Model Capacity Runtime(1) Runtime Range(2) (3Ø, 4-Wire+Ground, Wye, 50/60 Hz) Regulation Communications Connection SmartOnline Modular 3-Phase Tower UPS Systems 20 kVA/16 kW 13+ min. ABC 120-276/208-477 230/400 (220/380, 230/400, 240/415) Hardwire $\pm 2\%$ N+1 Q LCD 📛 SU40KX 40 kVA/32 kW 13+ min. ВС 120-276/208-477 230/400 (220/380, 230/400, 240/415) ±2% Hardwire DB9 Serial. Requires **B** or **C** N+1 🗘 🗠 📛 SU60KX ВС 60 kVA/48 kW 120-276/208-477 ±2% Hardwire 230/400 (220/380, 230/400, 240/415) Contact-Closure N+1 Q LCD # SU60KX/26B Accessory 60 kVA/48 kW 14+ min. В 120-276/208-477 230/400 (220/380, 230/400, 240/415) ±2% Hardwire Card Slot N+1 Q LCD 📛 SU80KX $80\,\text{kVA}/64\,\text{kW}$ Requires B or C ВС 120-276/208-477 ±2% 230/400 (220/380, 230/400, 240/415) Hardwire N+1 Q LCD SU80KX/40C 80 kVA/64 kW 9,6+ min. В 120-276/208-477 230/400 (220/380, 230/400, 240/415) ±2% Hardwire SmartOnline KX2 Modular 3-Phase Tower UPS Systems N+1 Q LCD 📛 SU80KX2 $80\,kVA/64\,kW^{(3)}$ DB9 Serial Requires C С 120-276/208-477 230/400 (220/380, 230/400, 240/415) ±1% Hardwire Contact-Closure, N+1 Q L □ 📛 SU100KX2 100 kVA/80 kW⁽³⁾ Requires C C 120-276/208-477 230/400 (220/380, 230/400, 240/415) ±1% Hardwire Accessory N+1 Q L□ 📛 SU120KX2 120 kVA/96 kW Requires C С 120-276/208-477 230/400 (220/380, 230/400, 240/415) Hardwire ±1% Card Slot **Internal Battery Packs and External Battery Cabinets** 240 VDC replacement internal battery pack for SU20KX or SU40KX. Can also extend SU20KX runtime A SURBC2030 **B** BP480V26B ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. Design matches UPS cabinet. **B** BP480V40C ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. Design matches UPS cabinet. C BP480V200 ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. 10-year design life. C BP480V300 ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. 10-year design life. C BP480V400 ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. 10-year design life. ±240 VDC hardwire external battery cabinet. Multiple cabinets can be daisy-chained. 10-year design life. C BP480V500 **Additional Accessories ENVIROSENSE** Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors and controls contact-closure devices. **MODBUSCARD** Adds interface for MODBUS RTU industrial communications protocol, RS-422/485 and RS-232. SNMPWEBCARD Adds network interface to UPS systems for remote management via SNMP, Web, SSH or telnet, including free PowerAlert software. SU20KSPM 20 kVA hot-swappable replacement/spare/expansion power module for SU80KX2, SU100KX2 or SU120KX2 SU20KMBPKX 3-breaker maintenance bypass panel for SU20KX. Wall-mount. Kirk Key interlock system prevents operator errors. SU40KMBPKX 3-breaker maintenance bypass panel for SU40KX. Wall-mount. Kirk Key interlock system prevents operator errors. SU60KMBPKX 3-breaker maintenance bypass panel for SU60KX. Wall-mount. Kirk Key interlock system prevents operator errors. SU80KMBPKX 3-breaker maintenance bypass panel for SU80KX. Wall-mount. Kirk Key interlock system prevents operator errors. Certifications vary by model. (1) Runtime varies with load, battery condition and other factors. SU20KX and SU40KX have internal batteries. (2) Input voltage range varies with load. (3) Expandable up to 120 kVA by adding SU20KSPM power module(s). 📛 Model with expandable runtime. 🔟 Model with LCD. 🧿 Model with hot-swappable power module(s). 🖊 🛏 Model with built-in N+1 redundancy.

PowerAlert Software



PowerAlert software monitors and controls power for hundreds of UPS systems, PDUs or cooling systems and the equipment they support. Since PowerAlert is a FREE, software-only solution, it saves network managers significant costs compared to competitive solutions that require additional hardware or license purchases.* Using JAVA® and SNMP standards, PowerAlert simplifies power management for every network—from a single server to a global enterprise. PowerAlert allows managers to centrally monitor every UPS, PDU and cooling system on their network. In addition, PowerAlert allows users to set parameters for graceful, automatic file saves and system shut down in the event of an extended blackout.

* FREE PowerAlert CD included with select models. FREE download available at www.tripplite.com/pa.

Reduces Deployment Time

• Mass Configuration of Devices

PowerAlert saves time and money by allowing managers to mass configure multiple remote device settings from a single location.

• Device Auto-Discovery

Managers can set PowerAlert to auto-discover devices in specific network segments or IP address ranges.

Reduces Troubleshooting Time

Alarm Log

PowerAlert speeds up alarm resolution by pooling all network alarms into a single, sortable easy-to-read list. Alarm entries feature intuitive color coding, including white (normal), yellow (warning) and red (critical).

• "Recommended Action" Messaging

PowerAlert takes the guesswork out of how to respond to alarms. When managers select a device from the Network Management Screen, the device's real-time power status is displayed along with the alarm's "cause" and recommended "response."





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- Monitors and Controls Hundreds of UPS Systems, PDUs or Cooling Systems, plus ENVIROSENSE® Modules
- Software-Only Solution Requires No Additional Hardware or Licenses
- Available FREE—Included CD or Download

Simplifies Network Power Management

• SNMP Control

Any UPS connected to PowerAlert via a USB or serial cable can now be monitored via SNMP—without an internal SNMPWEBCARD and its additional IP address. PowerAlert's built-in SNMP agent can make even a basic desktop UPS a monitored device on your network, visible to PowerAlert or any third-party network management system.

• Alarm Notification

PowerAlert keeps managers continuously apprised of conditions through emails and SNMP traps, enabling them to proactively manage problems before they affect productivity.

• Individual Outlet Control

PowerAlert allows managers to reboot locked devices or preserve runtime for critical equipment by remotely controlling the outlet power of UPS and power distribution units that offer outlet control capability. Select UPS and PDU devices can also be configured to perform custom, sequential startup and shutdown sequences.

Redundant UPS System Management

PowerAlert is smart enough to manage multiple UPS systems connected to a single load. For example, when two UPS systems are connected to support two power supplies on a server, PowerAlert is typically configured to gracefully shut down the server only after battery power is exhausted on both UPS systems.

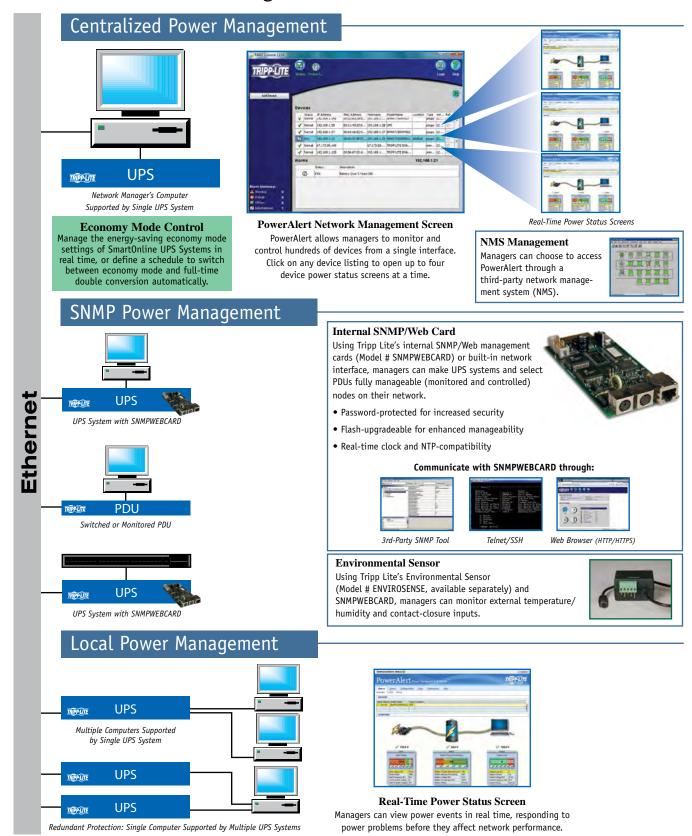
• Network Shutdown Commands

When a UPS communicates with PowerAlert software or via internal SNMPWEBCARD, other computers on the network may also be dependent on the condition of the UPS. Any networked computers with PowerAlert Network Shutdown Agent can detect an outage and automatically shut down before UPS battery power is exhausted. PowerAlert can also execute custom scripts upon any alarm condition.

• Convenient Web-Browser Access

When the internal SNMPWEBCARD is used, network managers can access its management interface from any networked computer via a secure, password-protected browser session (HTTP or HTTPS).

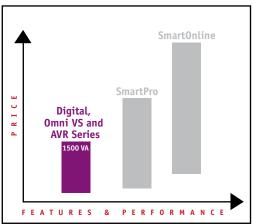
PowerAlert's Power-Management Architecture



Digital, OmniVS and AVR Series

Line-Interactive Tower and Low-Profile UPS Systems





- ▶ 350 to 1500 VA
- ► Automatic Voltage Regulation (AVR)
- ► Data Line Surge Protection Options
- ► Extended Runtime Options

Protect Every Application

Digital, OmniVS and AVR Series UPS Systems are available in a wide variety of capacities to protect every size computer application from downtime, damage and data loss due to power problems. These UPS systems provide protection against power problems, including brownouts, blackouts, surges and line noise. Line-interactive operation—also known as automatic voltage regulation (AVR)—keeps equipment working through low voltage (brownouts) indefinitely, without draining battery power. Digital, OmniVS and AVR Series UPS Systems provide reliable battery power to keep computers up and running through short blackouts and allow enough time to safely shut down during longer ones.

Digital UPS Systems include an LCD status screen that shows power conditions in real time. Monitor input voltage, battery charge level, load status and other power conditions at a glance.



Protect Systems On Telephone, Ethernet or Coaxial Lines

Select UPS systems include surge-protected jacks that safeguard equipment against damaging surges traveling on the telephone, Ethernet or coaxial lines. In addition to protecting equipment against surges, reliable battery backup power maintains Internet, network or coaxial connections during brief blackouts.

Automatically Shut Down Unattended Systems

All models feature at least one built-in communication port. Use with included cabling and PowerAlert software (available as a FREE download) to automatically save open files and shut down unattended equipment during an extended blackout. PowerAlert software waits for a user-specified length of time (during which on-screen notifications are displayed) before saving data and shutting down connected equipment.

Feature Focus



- A Data Line Surge Protection

 Protect telephone, Ethernet or coaxial lines
 with surge-protected jacks on select models.
- B Communication Ports
 USB and/or serial ports connect all models
 to a computer. Use with PowerAlert
 software (FREE download) to automatically
 save open files and shut down equipment
 during extended blackouts.



OMNIVSINT1500XL Rear Panel

- UPS Outlets (All Models) Provide battery backup and surge/noise protection for computers and monitors.
- D Surge-Only Outlets (Select Models)
 Provide surge/noise protection without
 battery backup for printers and other
 peripherals.
- Extended Runtime Capability





- © Operating Conditions Displayed LEDs or a front-panel LCD screen alert you to operating status and power problems.
- G AC Input Connector
 C14 inlet connects to a user-supplied cord
 and plug compatible with local AC outlets.
 (Select models have a fixed cord and CEE
 7/7 plug instead.)

Specifications DB9 **Data Line** Typical Nominal **AC Outlet** Output Half-Load Extended **AC Voltage** USB Serial AC Input Surae Form Quantity (Type)(2) Connector(2) (50/60 Hz) Model Capacity Runtime(1) Runtime **Ports Ports** Protection **Factor** [UPS/Surge-Only] **AVR Series UPS Systems** 550 VA/300 W C14 AVRX550U 8 min. 230 (220/230/240) 6 (C13) [3/3] Tel/DSL Low-Profile AVRX550UD 550 VA/300 W Low-Profile 9,7 min. 230 (220/230/240) 8 (Schuko) [4/4] 1 Tel/Network **CEE 7/7** AVRX750U 750 VA/450 W 6 (C13) 1 Tel/DSL Low-Profile C14 10 min. 230 (220/230/240) AVRX750UD Tel/Network 750 VA/450 W 1 Low-Profile **CEE 7/7** 11,7 min. 230 (220/230/240) 8 (Schuko) [4/4] **OmniVS Series UPS Systems** 800 VA/475 W OMNIVSINT800 11,5 min. 230 (220/230/240) 4 (C13) Tel/Network C14 Tower OMNIVSINT1000 1000 VA/500 W 12 min. 230 (220/230/240) 6 (C13) Tel/Network Tower C14 **△ OMNIVSINT1500XL** 1500 VA/940 W 13+ min. Α 230 (220/230/240) 8 (C13) Tel/Network Tower C14 **Digital UPS Systems with LCD Status Screen** SMX1000LCD 1000 VA/500 W 11 min. 230 (220/230/240) 6 (C13) [3/3] 1 Tel/DSL Tower C14 SMX1500LCD 1500 VA/900 W 12 min. 230 (220/230/240) 8 (C13) 1 Tel/Net + Coax 2U/Tower C14 SMX1500LCDT 1500 VA/900 W 230 (220/230/240) 8 (C13) [6/2] Tel/Network C14 10 min. Tower Hospital/Medical UPS Systems with Full Isolation and IEC 60101-1 Compliance OMNIX350HG 350 VA/225 W 37 min. 230 (220/230/240) 6 (C13) Tel/DSL Tower C14 SMX700HG 700 VA/450 W 36 min. 230 (220/230/240) 6 (C13) 1 Tower C14 SMX1200XLHG 1000 VA/750 W 27,5+ min. В 230 (220/230/240) 6 (C13) Tower C14 **Optional External Battery Packs and Accessories** 24 V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Not expandable. A BP24V15RT2U A BP24V28-2U 24 V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Not expandable. A BP24V36-2US 24 V external battery pack and cable. Red and black 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain. A BP24V70-3U 24 V external battery pack and cable. Red and black 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain. **B** BP36V15-2U 36 V external battery pack and cable. Gray 2-pole connector. 2U rack/tower cabinet. Not expandable. **B** BP36V27-2US 36 V external battery pack and cable. Gray 2-pole connector. 2U rack/tower cabinet. Expandable via daisy chain. **B** BP36V42-3U 36 V external battery pack and cable. Gray 2-pole connector. 3U rack/tower cabinet. Expandable via daisy chain. UNIPLUGINT Adapter converts a C13 outlet to a Wonpro universal outlet that is physically compatible with most household plugs worldwide.

Certifications vary by model. (1) Runtime varies with load, battery condition and other factors. (2) Schuko = CEE 7/4, Type F; CEE 7/7 = Hybrid Type E/F.

Model with expandable runtime. LCD.

SMARTONLINE® 3-PHASE UPS SYSTEMS

• 380Y/220V, 400Y/230V or 415Y/240V

The Most Reliable and Cost-Effective Power Solutions for Your Data Center



SUPPORT UP TO 480 KVA IN PARALLEL

SMARTONLINE KX2 SERIES (80-120 KVA)

IDEAL OUTPUT POWER
PROTECTS CRITICAL SYSTEMS

MODULAR ARCHITECTURE ELIMINATES DOWNTIME

SCALABLE DESIGN
GROWS WITH YOUR DATA CENTER

1-TO-1 GENERATOR SIZING LOWERS INSTALLATION COSTS

EXTREME EFFICIENCY
LOWERS OPERATING COSTS



SMARTONLINE KX2 SERIES UPS SYSTEMS

Extremely efficient protection for your most important equipment



IDEAL OUTPUT POWER PROTECTS CRITICAL SYSTEMS

On-line, double conversion operation continuously delivers precision-regulated, pure sine wave output, isolating your critical systems from damaging and disruptive power problems.

MODULAR ARCHITECTURE ELIMINATES DOWNTIME

Internal N+1 power module redundancy, parallel capability (up to four units) and fault-tolerant bypass features keep your critical systems highly available and productive around the clock.

1-TO-1 GENERATOR SIZING LOWERS INSTALLATION COSTS

An advanced IGBT rectifier produces <4% THDi (input Total Harmonic Distortion), eliminating costly over-sizing requirements for generators, breakers and cables.

SCALABLE DESIGN GROWS WITH YOUR DATA CENTER

Models with less than 120 kVA capacity can be expanded up to 120 kVA as infrastructure grows and more equipment is added.

EXTREME EFFICIENCY LOWERS OPERATING COSTS

Efficiency up to 97% significantly lowers power and cooling costs compared to multiple smaller units or legacy high-capacity units.

SMARTONLINE KX2 SERIES IDEAL OUTPUT POWER **UPS SYSTEMS MODULAR** ARCHITECTURE **SCALABLE DESIGN** SU80KX2 **PARALLEL FEATURES** 80 kVA /64 kW

> SU100KX2 100 kVA / 80 kW

SU120KX2 120 kVA / 96 kW

3 3 3 1-TO-1 GENERATOR SIZING **EXTREME** EFFICIENCY **GREEN POWER MONITORING AND CONTROL BATTERY CABINETS COMPACT** FOOTPRINT 6 **ORDERING INFORMATION** 6 **TECHNICAL SPECIFICATIONS**

SMARTONLINE KX2 SERIES UPS SYSTEMS

IDEAL OUTPUT POWER

SmartOnline KX2 Series UPS Systems isolate your critical equipment from power problems, including surges, line noise, harmonic distortion, electrical impulses, frequency variations, brownouts, overvoltages and blackouts. True on-line operation continually transforms AC input power into filtered DC power, then resynthesizes it into precision-regulated AC output with a pure sine wave. Strong overload capacity supports up to 150% output for up to 60 seconds. Reliable backup power with zero transfer time to battery keeps equipment operating safely through shorter power failures and allows time to shut down or switch to generator power during longer outages. Rapid recharging restores battery charge levels in as little as two hours.

MODULAR ARCHITECTURE

Intelligent, independent 20 kVA power modules provide internal redundancy. When the UPS is configured for N+1 redundancy, convenient hot-swap power modules can be replaced without powering down the connected load. In the event of a power module fault, the load is automatically distributed among the remaining modules. Because load redistribution happens without interrupting critical systems, mean time to recovery is zero—far superior to legacy UPS systems. In addition, redundant control circuits eliminate a single point of failure commonly found in less-reliable UPS designs. Power module installation is simple—each module is completely self-contained and can be installed or removed in minutes using nothing but a screwdriver.

If service or repair requires UPS shutdown, all models include a manual bypass breaker and automatic bypass function that maintain system availability by passing through AC power until the UPS system returns to service.

SCALABLE DESIGN

UPS systems in the KX2 Series with less than 120 kVA capacity include empty slots to accommodate more 20 kVA power modules. All systems can be upgraded to 120 kVA load capacity, or six 20 kVA power modules. This scalable design allows for capacity to be added slowly as the needs of your data center grow, allowing more flexibility when selecting a UPS, saving on up-front costs and facilitating infrastructure planning.

PARALLEL FEATURES

Increase fault tolerance or quadruple output capacity by connecting up to four SmartOnline KX2 Series UPS Systems in parallel. If one UPS system is taken offline for maintenance, the other UPS systems automatically compensate to support the equipment load—without requiring additional programming.

SmartOnline KX2 Series UPS Systems ship ready for parallel operation. Patented dual-DSP technology provides optimal synchronization of power sources.

