SBP PLUS UPS Series

Uninterruptible Power Supply

SBP Plus Series
(Venus Plus)
450-1500

USER'S GUIDE

Models:

SBP450U Plus-T, SBP650U Plus-T, SBP800U Plus-T, SBP1000U Plus-T, SBP1500U Plus-T

SmartPower SYSTEMS

A POWER QUALITY COMPANY

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

This manual contains important instructions for models SBP450UPlus-T, SBP650UPlus-T, SBP800UPlus-T, SBP1000UPlus-T, SBP1500UPlus-T that should be followed during installation and maintenance of the UPS and batteries.
Read this manual thoroughly before attempting to unpack, install, or operate your UPS.

Safety Cautions!

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (See the specifications for the acceptable temperature and humidity range.)

CAUTION! To reduce the risk of overheating the UPS, do not cover the UPS' cooling vents and avoid exposing the unit to direct sunlight or installing the unit near heat emitting appliances such as space heaters or furnaces.

CAUTION! Do not attach non-computer-related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to UPS.

CAUTION! Do not plug the UPS input into its own output.

CAUTION! Do not allow liquids or any foreign object to enter the UPS. Do not place beverages or any other liquid-containing vessels on or near the unit.

CAUTION! In the event of an emergency, press the OFF button and disconnect the power cord from the AC power supply to properly disable the UPS.

CAUTION! Do not attach a power strip or surge suppressor to the UPS.

CAUTION! Internal battery voltage is 12Vdc. Sealed, lead-acid, 6-cell battery.

CAUTION! Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.

CAUTION! When replacing the batteries, use the same number and type of batteries.

CAUTION! Do not dispose of batteries in a fire. The battery may explode. Do not open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes.

CAUTION! Unplug the UPS prior to cleaning and do not use liquid or spray detergent.

CAUTION! A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed before replacing batteries: (1) Remove watches, rings, or other metal objects.(2) Use tools with insulated handles.(3) Wear rubber gloves and boots.(4) Do not lay tools or metal parts on top of batteries. (5) Disconnect charging source prior to connecting or disconnecting batteries terminal.

• When replacing batteries, replace with the same number of the sealed lead-acid batteries.

CONSIGNES DE SÉCURITÉ IMPORTANTES CONSERVER CES INSTRUCTIONS

Ce manuel contient des instructions importantes pour les modèles SBP450UPlus-T, SBP650UPlus-T, SBP800UPlus-T, SBP1000UPlus-T, SBP1500UPlus-T à suivre lors de l'installation et de la maintenance de l'onduleur et des batteries. Lisez attentivement ce manuel avant de déballer, d'installer ou d'utiliser votre système UPS.

Précautions de sécurité!

MISE EN GARDE! Pour éviter tout risque d'incendie ou de choc électrique, installez-le dans une zone intérieure à température et humidité contrôlées, exempte de contaminants conducteurs. (Voir les spécifications pour la plage de température et d'humidité acceptable.)

MISE EN GARDE! Pour réduire le risque de surchauffe de l'onduleur, ne couvrez pas les bouches d'aération de l'onduleur et évitez d'exposer l'unité à la lumière directe du soleil ou de son installation à proximité d'appareils dégageant de la chaleur, tels que des radiateurs indépendants ou des générateurs d'air chaud.

MISE EN GARDE! N'attachez pas d'objets non liés à l'ordinateur, tels que des équipements médicaux, des équipements de survie, des fours à micro-ondes ou des aspirateurs.

MISE EN GARDE! Ne branchez pas l'entrée de l'onduleur dans sa propre sortie.

MISE EN GARDE!Ne laissez pas de liquides ou d'objets étrangers pénétrer dans l'onduleur. Ne placez pas de boissons ou tout autre récipient contenant des liquides sur ou à proximité de l'appareil.

MISE EN GARDE! En cas d'urgence, appuyez sur le bouton OFF et débranchez le cordon d'alimentation du secteur pour désactiver correctement l'onduleur.

MISE EN GARDE! Ne connectez pas de multiprise ni de suppresseur de surtension à l'onduleur.

MISE EN GARDE!La tension interne de la batterie est de 12Vdc. Batterie scellée au plomb, à 6 cellules.

MISE EN GARDE! L'entretien des batteries doit être effectué ou supervisé par du personnel connaissant les batteries et les précautions requises. Tenir le personnel non autorisé à l'écart des batteries.

MISE EN GARDE!Lors du remplacement des piles, utilisez le même nombre et le même type de piles.

MISE EN GARDE! Ne jetez pas les piles au feu. La batterie peut exploser. Ne pas ouvrir ni mutiler la batterie ou les batteries. L'électrolyte libéré est nocif pour la peau et les yeux.

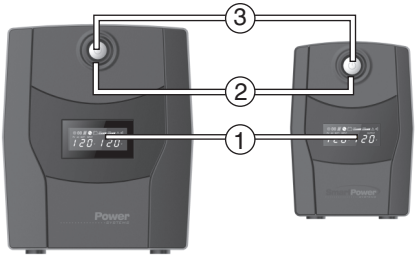
MISE EN GARDE! Débranchez l'onduleur avant le nettoyage et n'utilisez pas de détergent liquide ou en aérosol.

MISE EN GARDE! Une batterie peut présenter un risque de choc électrique et de courant de court-circuit élevé. Les précautions suivantes doivent être observées avant de remplacer les piles: (1) Enlevez les montres, bagues ou autres objets métalliques. (2) Utilisez des outils avec des poignées isolées. (3) Portez des gants et des bottes en caoutchouc. (4) Ne posez pas d'outils ou de métal parties sur les batteries. (5) Déconnectez la source de charge avant de connecter ou de déconnecter la borne de batterie.

• Lors du remplacement des piles, remplacez-les par le même nombre de piles plomb-acide scellées.

System Description

FRONT PANEL



1.LCD Display

The LCD will display the UPS status including input voltage, output voltage, runtime, percentage of load and battery etc.

2.Power On/Off Switch

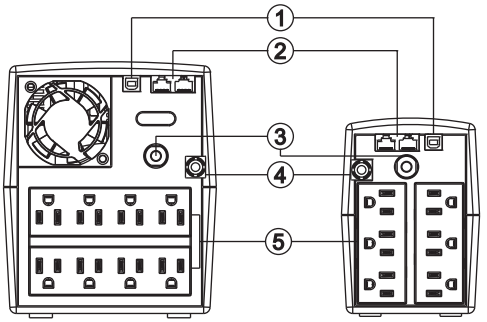
Press the power switch to turn the UPS ON or OFF.

Press the power switch 2 times to disable and enable the alarm beeping sound.

3.Led Indicators

This LED is illuminated when the UPS is ON.

BACK PANEL



1.USB Port

This port allows connection and communication from the USB port on the computer to the UPS. The UPS communicates its status to the Power Master software.

2.Communication Protection Ports

Communication protection ports will protect any standard modem, fax, telephone line, or network cable.

3.Input Circuit Breaker

The circuit breaker provides overload protection.

4.Input Power Cord

Connect to utility power.

5. Battery Backup & Power Conditioning-Protected Outlets

Provides battery backup and surge protection. They ensure power is provided to connected equipment over a period of time during a power failure.

Installation and Operation

UNPACKING

Inspect the UPS upon receipt. The box should contain the following:
(1) UPS (2) User Manual

OVERVIEW

The SBP Plus provides automatic voltage regulation for inconsistent utility power, and battery backup during power outages. The SBP Plus ensures consistent power to your computer system and its included software will automatically save your open files and shutdown your computer system during a utility power loss.

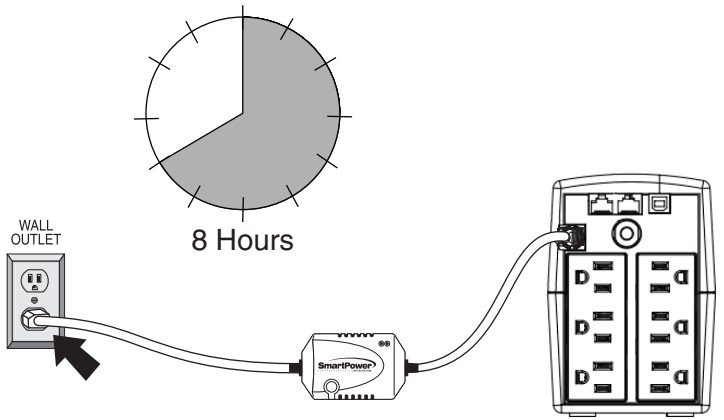
HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Insure that the equipment plugged into the battery power-supplied outlets does not exceed the UPS unit's rated capacity. If rated unit capacities are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.

2. There are many factors that can affect the amount of power that your computer system will require. For optimal system performance keep the attached load below 80% of the UPS's rated capacity.

HARDWARE INSTALLATION GUIDE

1. Your new UPS may be used immediately upon receipt. However, recharging the battery for at least 8 hours is recommended to ensure that the battery's maximum charge capacity is achieved. Charge loss may occur during shipping and storage. To recharge the battery, plug the UPS into an AC outlet. The unit will charge in both the on and off position.



2. With the UPS turned off and unplugged, connect the computer, monitor, and any equipment into the battery power supplied outlets. **DO NOT plug a laser printer, copier, space heater, vacuum, paper shredder or other large electrical device into the battery power supplied outlets. The power demands of these devices will overload and possibly damage the unit.**

3. Plug the UPS into a 2 pole, 3 wire grounded receptacle (wall outlet). Make sure the wall branch outlet is protected by a fuse or circuit breaker and does not service equipment with large electrical demands (e.g. air conditioner, refrigerator, copier, etc.) Avoid using extension cords.

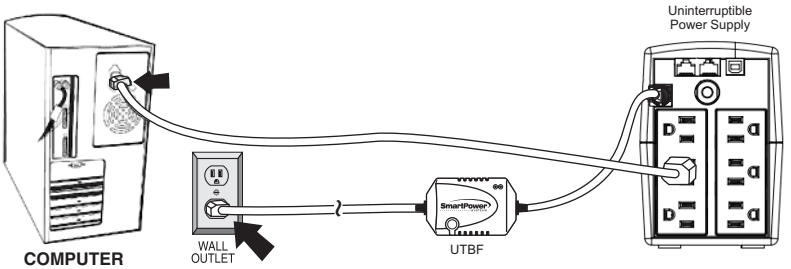
4. To turn the UPS on, press the power button for 1 second until the LCD screen turns on. With the LCD screen turned on, press and hold the power button for 3-5 seconds until the OUTPUT is displayed.

5. If an overload is detected, an audible alarm will sound and the UPS will emit one long beep. To correct this, turn the UPS off and unplug at least one piece of equipment from the battery power supplied outlets. Wait 10 seconds. Make sure the circuit breaker is depressed and then turn the UPS on.

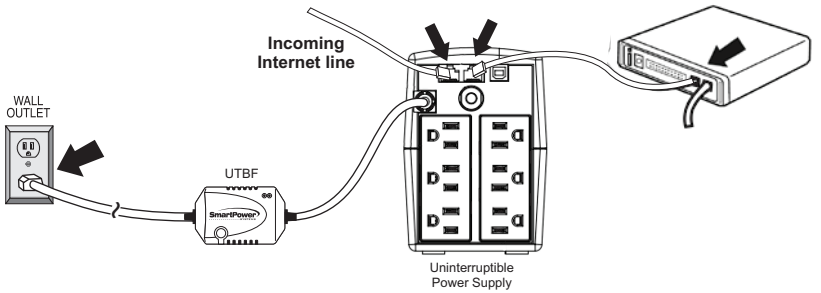
6. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.

7. To store your UPS for an extended period, cover it and store with the battery fully charged. Recharge the battery every three months to ensure battery life.

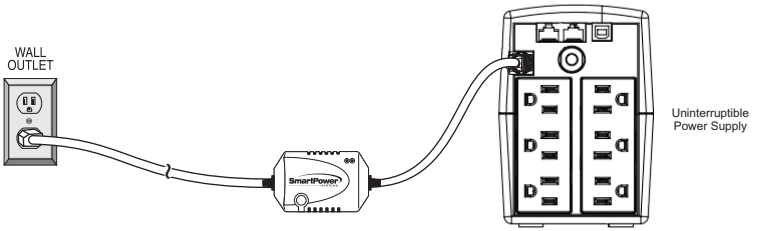
Computer Connection
Connect one computer-related device into each of the power receptacles supplied on the back of the UPS (maximum of three devices).



Modem/Phone line Connection
Plug incoming internet line into the “In” socket at the back of the UPS. Use one more Internet line cable and plug one end of the Internet line cable to the “Out” socket at the back of the UPS. Plug the other end to the modem input socket as shown.



UPS TBF™ Models
1.Turn off and un-plug all devices.
2.Plug UPS unit into grounded wall outlet.
3.Place the UTBF where monitoring lights can be observed.
UTBF INDICATORS:
Green light only - It confirms properly connected equipment is fully protected.
Green and Red light - Reverse polarity or loss of ground at the wall outlet. Call your electrician to correct the problem.
Green light off - Power failure or UTBF fault. Contact customer service.



REPLACING THE BATTERY (1000VA/1500VA only)

Replacement of batteries located in an **OPERATOR ACCESS AREA**.

1. When replacing batteries, replace with the same number of the battery.

2. **CAUTION!** Risk of Energy Hazard! Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy conducted through these materials could cause severe burns.

3. **CAUTION!** Do not dispose of batteries in a fire. The batteries may explode.

4. **CAUTION!** Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.

5. **CAUTION!** A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:

1) Remove watches rings, or other metal objects.

2) Use tools with insulated handles.

CAUTION - RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO LOCAL REGULATIONS.

BATTERY REPLACEMENT PROCEDURE

1.Turn off and unplug all connected equipment.

2.Turn the UPS off and unplug it from the AC power source.

3.Turn the UPS on its side.

4.Remove the screws on the bottom of the front panel and lay aside.

5.Remove the front panel of the UPS: pull and lift it.

6.Take out the battery compartment covert.

7.Disconnect the battery wires from the battery.

8.Remove the battery from the compartment.

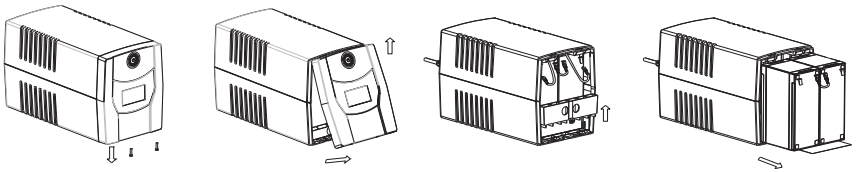
9.Put the battery back into the compartment.

10.Install the replacement battery by connecting the red wire (+) and black wire (-) to the same color connectors from the battery pack.

11.Take in the battery compartment cover.

12.Fit the front panel on and tighten the retaining screws.

13.Recharge the UPS for 8-16 hours to fully charge the battery.



REMINDER: Batteries are considered HAZARDOUS WASTE and must be disposed of properly. Most retailers that sell lead-acid batteries collect used batteries for recycling, as required by local regulations.

For battery replacement instructions for models 450 to 800 refer to our support page at https://smartpowersystems.com/support-2/battery-replacement/

Free Software Download

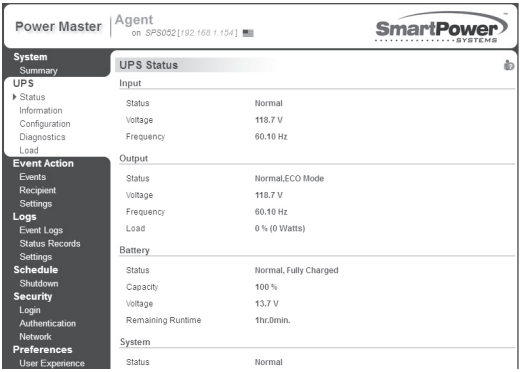
SMART POWER MASTER

POWER MANAGEMENT SOFTWARE

Smart Power Master management software provides a user-friendly interface for your power systems.

The graphic user-interface is intuitive and displays essential power information at a glance.

Please follow procedure below to install the software.



Installation procedure:

1. Download Smart Power Master from the website:

https://www.smartpowersystems.com/downloads/Smartpowermaster/pm106-setup.exe

2. Double-click the file and follow the installation steps.

Smart Power Master software consists of two different modules Agent and Client. Agent monitors and configures the UPS through the USB or serial connection, logs UPS status and power events, and generates actions in response to events. Client establishes communication with the Agent, UPS RMCARD, PDU or ATS and generates actions according to notifications from the UPS/PDU/ATS when a power event occurs.

Agent

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each event and notifications via E-mail, Instant Message, and SMS.
- Run command files for custom applications.
- Historical log of events and power conditions.
- Detailed load management for all powered equipment.
- Scheduled shutdown and restart.
- Status monitoring of the UPS and utility power.
- UPS configuration.
- Quick view system summary.

Client

The Client provides unattended shutdown for the hosted computer following a notification from the UPS/PDU/ATS. The Client also provides the following functions:

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each specific event and notifications via E-mail, Instant Message, and SMS.
- Historical logs of power events.
- Quick view system summary.

Troubleshooting

Symptom	Possible Cause	Solution
The UPS does not perform expected runtime.	Batteries are not fully charged	Recharge the battery by leaving the UPS plugged in.
	battery is slightly worn out	Contact technical support
The UPS will not turn on.	The on/off switch is designed to prevent damage by rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The UPS is not connected to an AC outlet.	The unit must be connected to a 120VAC 50/60Hz outlet.
	The battery is worn out	Contact technical support
	Mechanical problem.	Contact technical support
Outlets do not provide power to equipment	Circuit breaker is tripped due to overload.	Turn the UPS off and unplug at least one piece of connected equipment. Unplug the power cord of the UPS then press the circuit breaker knob.
	Batteries are discharged	Allow the unit to recharge for at least 4 hours.
	Unit has been damaged by a surge or spike	Contact technical support
	2. Power cord is loose.	2. Reconnect the power cord
Smart Power Master is inactive	The serial/USB cable is not connected	Connect the serial/USB cable to the UPS unit and open serial port on the back of the computer. You must use the cable that came with the unit.
	The unit is not providing battery power	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. this should reset the unit.

If abnormal situations occur that are not listed above, please call customer service immediately.

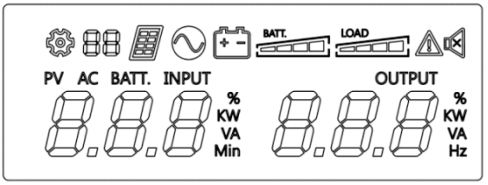
Specifications

MODEL	SBP450UPLUS-T	SBP650UPLUS-T	SBP800UPLUS-T	SBP1000UPLUS-T	SBP1500UPLUS-T
Rated capacity (VA/W)	450 / 270	650 / 390	800 / 450	1000 / 600	1440 / 900
Rated power factor	0.6				
INPUT					
Voltage	100-120VAC				
Input voltage range	82-150VAC				
Input frequency range	50/60Hz± 3Hz				
Plug type	NEMA 5-15P				
Plug style	Straight				
OUTPUT					
On battery waveform	Simulated sine wave				
On battery voltage	100-120VAC ±10%				
Automatic voltage regulation (AVR)	Double boost / Single buck				
Automatic voltage regulation (Line mode)	Boost:1.06, Boost 2: 1.24, Buck: 0.85				
On battery frequency	50/60Hz ±1Hz				
Outlets - Total (Bat. & Surge Protected)	6			8	
Outlet type	NEMA 5-15R				
Transfer time	4ms TYP				
Protection	Overload, short circuit, over discharge and over charge				
Overload-Line mode	>(110%±10%) fault after alarm 1 min, >(120%±10%) fault immediately				
Overload-Batt mode	>(110%±10%) fault after alarm 1 min, >(120%±10%) fault immediately				
PROTECTION					
Surge protection	1710 Joules				
Lowest Pass through Voltage	<10V Normal Mode <0.5V Common Mode				
BATTERY					
Battery voltage	12V			24V	
Battery type	(1) SP011.5	(1) SP012	(1) SP013	(2) SP012	(2) SP013
Runtime at half load (min)	13	8	10	11	9
Charger current	1A				
Typical recharge time	4 hours to 90% capacity				
INTERFACE					
Display	LCD				
Alarm	Battery mode: sounding every 30 seconds Low battery: sounding every 2 seconds Overload: sounding every 0.5 seconds Fault: Continuous sounding				
COMMUNICATION					
HID compliant USB port	Yes				
TVSS	Yes				
PHYSICAL					
Form factor	Tower				
Dimensions (WxHxD) (in/mm)	3.77 x 5.43 x 11.25 / 96 x 138 x 286			5.82 x 7 x 11.73 / 148 x 178 x 298	
Weight (lbs/kg)	9.1 / 4.15	10.35 / 4.69	11.20 / 5.08	19.22 / 8.72	21.78 / 9.88
ENVIRONMENT					
Temperature & humidity	0°C to +40°F, 0 to 90% relative humidity (non-condensing)				
Noise level	Less than 40dB			Less than 45dB	
REGULATION					
Energy saving	Green Energy function				
Safety	cTUV-us				
Conduction	FCC part-15 Class B			FCC part-15 Class A	
Radiation	FCC part-15 Class B			FCC part-15 Class A	
Transportation	Drop: ISTA 1A, Vibration: Internal standard				
External protection	IP20 (static)				

Specifications and features subject to change without notice.

Definitions for illuminated LCD indicators

LCD Indication



	Line mode UPS is running from an input line power source.		**Battery Mode** UPS is running on battery mode due to power failure or severe input voltage fluctuation.
	Fault UPS detected a fault		**Mute/Silent** Press the power switch 2 times to disable and enable the alarm beeping sound. Mute function only for Sounding every 30 seconds on battery mode.
BATT.	Batt mode: battery capacity Line mode: 1. Battery charging: cycle lighting 2. Battery fully charged: lighting 3. Line mode without charger: battery capacity	LOAD	**Load Capacity** Reports load-level of the UPS supported outlets.

Line mode & BATT. Mode

	PV AC BATT. INPUT % KW VA Min		OUTPUT % KW VA Hz	
Initial	AC INPUT(Voltage) V	AC INPUT 120 V	OUTPUT(Voltage) V	AC OUTPUT 120 V

LIMITED PRODUCT WARRANTY

We warrant this product to be free from defects in material and workmanship for 2 years. The battery has a 2 year warranty. If a product proves to be defective in material or workmanship during the warranty period, we will at our sole option repair or replace the product with a like product. Visit our website for details - www.smartpowersystems.com

CONNECTED EQUIPMENT PROTECTION POLICY

If the Smart Power Systems equipment fails and this failure causes the surges to pass through and damage the connected equipment, Smart Power Systems will pay for the repair or replacement of the connected equipment up to $25,000 in accordance to the Connected Equipment Protection Policy. Visit our website for details -
https://www.smartpowersystems.com/downloads/archives/030714-SPS-CEPP.pdf

IMPORTANT

If for any reason you need to return the unit to the manufacturer, you should obtain an RMA (Return Material Authorization) number before returning the unit. To request an RMA number please call 1-800-772-7633 or visit the website at https://www.smartpowersystems.com/rma.htm

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

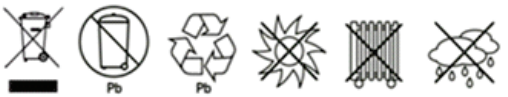
Note: This equipment has been tested and found to comply with part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canadian Compliance

CAN ICES-3 (B)/NMB-3(B)



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A POWER QUALITY COMPANY

7409 Railhead Ln. • Houston, TX 77086
1-800-882-8285 • URL:www.smartpowersystems.com
Email:support@smartpowersystems.com