

K Series

K500/1000 UPS

USER MANUAL



Safety – CAUTION

- This product is specially designed for PCs and it is not recommended for use in any medical equipment, life-supporting system and other specific important equipment.
- Do not plug household appliances such as hair dryers, microwave ovens or vacuum cleaners to UPS.
- Do not attach a power strip or surge suppressor to the UPS.
- Do not plug the UPS into its own output.
- Connection to any other type of receptacle other than two-pole, three-wire grounded receptacle may result in shock hazard as well as violate local electrical codes.
- To reduce risk of overheating the UPS, do not cover the UPS' cooling vents.
- This unit intended for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants). Avoid installing the UPS in locations where there is standing or running water or excessive humidity and do not use it in any of the following environments:
 - Any area with combustible gas, corrosive substance or heavy dust.
 - Any area with extraordinarily high or low temperature (above 40°C or below 0°C) and humidity of more than 90%.
 - Any area exposed to direct sunshine or near any heating apparatus.
 - Any area with serious vibrations.
 - Outdoor.
- The utility power outlet shall be near the equipment and easily accessible. In the event of an emergency, press OFF button and disconnect the power cord from the AC power supply to properly disable the UPS.
- The internal short circuiting of the UPS will lead to dangers such as electric shock or fire; therefore do not allow liquids or any foreign object to enter the UPS. No water containers (such as a water glass) or any other liquid-containing vessels shall be placed on the top of the UPS so as to avoid such dangers as electric shock.
- Please do not use the UPS in excess of the rated load capacity.
- Unplug the UPS prior to cleaning and do not use liquid or spray detergent.
- Risk of electric shock, do not attempt to disassemble the unit. No user serviceable parts inside. Refer servicing to qualified service personnel.

- If UPS is to be stored for a long time, it is recommended to recharge the batteries (by connecting the utility power to UPS, switch "ON"), once a month for 24 hours to avoid a full battery discharge.
- In case smoke is found coming out from the device, please cut off the power supply quickly and contact the distributor.
- The UPS contains one/two large-capacity batteries. So the shell shall not be opened, otherwise such dangers as electric shock will be caused. If any internal overhaul or replacement of the battery is required, please contact the distributor.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:
 - Remove watches, rings, or other metal objects from the hand.
 - Use tools with insulated handles and wear rubber gloves and boots.
 - Do not lay tools or metal parts on top of batteries.
 - Disconnect charging source prior connecting or disconnecting batteries terminals.
 - When replacing batteries, replace with the same type and number of the sealed lead-acid batteries.
 - Never short circuit batteries. When working with batteries, remove watches, rings and other metal objects, and only use insulated tools.
 - The battery must be replaced exclusively by qualified personnel (risk of shock). Prohibit users from their own battery replacement. Contact your reseller if need.
 - The maximum ambient temperature rating is 40°C.
 - Do not dispose of battery or 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. It may be toxic.
 - Icon Φ on the rating label stands for phase symbol.
 - This pluggable type A equipment with battery already installed by the supplier is operator installable and may be operated by laymen.
 - During the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5mA.
- Attention, hazardous through electric shock. Also with disconnection of this unit from the mains, hazardous voltage still may be accessible

through supply from battery. The battery supply should be therefore disconnected in the plus and minus pole of the battery when maintenance or service work inside the UPS is necessary.

- In the event that there is fire occurring in the vicinity, please use dry-power extinguishers. The use of liquid extinguishers may give rise to the danger of electric shock.

Introduction

K series is a compact line interactive UPS (Uninterruptable Power Supply) which is designed to protect your personal computer or sensitive electronic equipments from all forms of power interference, including complete power failures. It is equipped with many features that allow any attached equipment to operate longer and more reliability.

Inspection the pack and equipment.

1. Open UPS pack, inspection whether UPS have been damaged during shipment.

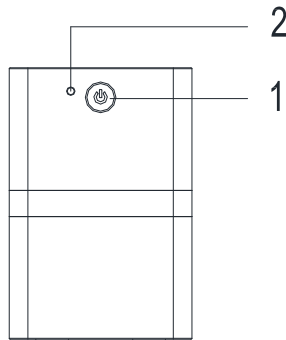
2. If find any equipment damaged, please contact your local SANTAK representative.

Accessory: 1 pcs of user manual.



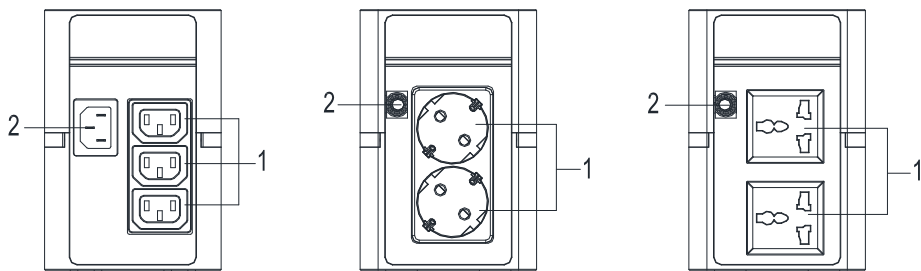
The UPS package is recycling, please keep it for further use.

Product Overview

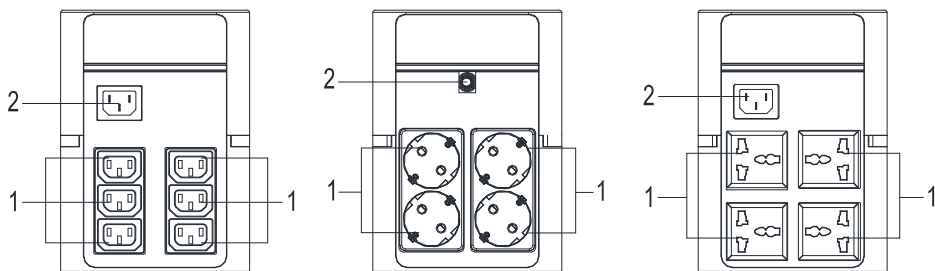


1. Power Switch
2. Indicator Light :

Normal Mode : Light
Battery Mode : Light
Failure Mode : Off



K500 Rear Panel



K1000 Rear Panel

1. AVR+ Battery Output (Normal/Battery Mode)
2. AC Input (Plug or IEC Input Socket)

Installation and operation

An additional circuit breaker or fuse with rating 16A and breaking capacity 3kA shall be used between power source and input when installation this unit.

1. Install the UPS in a Suitable environment (please follow the Safety precautions);
 2. Plug in the loads to output receptacles on the rear panel of the UPS;
 3. Plug in the AC input cord to the 2-pole, 3-wire grounded wall outlet.
- For the best results, we suggest charging the battery at least 6 hours with no load (no electrical devices such as computers, monitors, etc.) connected before initial use. The unit charges its battery while

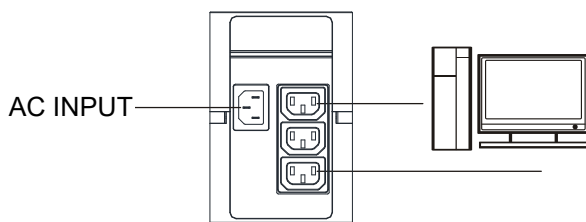
connecting to the utility.

4. Press UPS power switch (the buzzer rings and indicator lights) for few seconds , UPS runs and now open your PC or other loads;

5. When electricity is normal and UPS is in battery mode, the socket on ups can provide stable output;

6.Once electricity input is broken or exceed the voltage range (see technical parameters),UPS switches to battery mode with the buzzer beeped and indicator lighten,please save data and shutdown your PC and other loads in time . when electricity recovers ,UPS will automatically start;

7. Turn on the UPS unit by pressing the power switch. Turn off the UPS unit by pressing again the power switch.



Operation Illustration

Alarm Table List

Indicator Light: ○ Light ● Off ★ Flash

Indicator	Alarm	Output	Charge	Description	Status
●	No	No	No	No input , no working	Shutdown
○	No	Yes	Yes	AC Input ,UPS work normally	Normal
★	Beep once per 10 sec	Yes	No	AC Input abnormally, UPS is in battery mode	AC Input abnormally

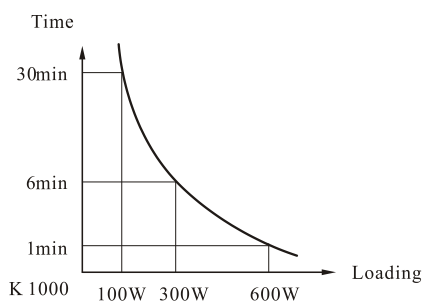
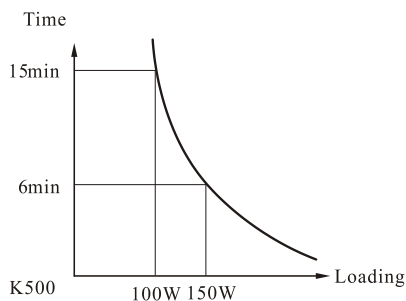
★	Beep once per 1 sec	Yes	No	AC Input abnormally UPS is in battery mode with battery low	AC Input abnormally
●	Beep continuously	No	No	an output short circuit or other fault	Failure
★	Beep once per 2 sec	Yes	Yes	Low voltage /battery aging	

Maintenance

UPS internal use of sealed maintenance-free lead-acid batteries, as long as the charge can often get the desired service life. The UPS will automatically charge the battery after power on. Note: Use at high temperatures will shorten battery life. Even if the battery is not used, its performance will gradually decline. Near storage When the battery life is used, the battery performance will drop dramatically. The following is a brief description of the battery check method:

1. UPS connected to the mains, boot the battery after charging more than 6 hours;
2. Turn on the UPS, access the load and record the load power;
3. Unplug the UPS mains input plug (analog interruption), UPS into the battery mode, record the discharge time, straight to UPS automatic shutdown;

4. Compare the discharge time to following Figure (initial discharge time) to see if it is within the normal range. When the discharge time drops to half initial value, the battery should be replaced.



Loading & Time Curve

Note:

- The total loading is calculated in watts ;
- If only the voltammetry value is specified on the machine nameplate, multiply the power factor (0.55);

- If only the current value is marked, multiply the rated voltage by the power factor and convert it to W.

If you find the battery is poor (for example: battery power is greatly reduced), it should be replaced, please contact the distributor. Make sure that the new battery parameters must be the same as the specifications (see Specification data).

The Caution!

Non-professional personnel Do not open the cover to avoid the risk of electric shock.

The Caution!

Do not open the battery to prevent the electrolyte from harming the human body.

Specifications

Model	K series	
	K500	K1000
INPUT		
Voltage	162×(1±7%)VAC~268×(1±7%)VAC	
Frequency	>40Hz	
OUTPUT		
Voltage(Normal Mode)	220×(1±15%)VAC	
Frequency(Normal Mode)	Follow AC input frequency	
Voltage(Battery Mode)	220×(1±10%)VAC	
Frequency(Battery Mode)	50Hz±1Hz or 60Hz±1Hz	
Transfer Time	≤10ms	
Waveform	Modified Sine Wave	
CAPACITY*	500VA / 300W	1000VA / 600W
PROTECTION		
Full protection	Discharge, overcharge and overload protection	
ENVIRONMENT		
Humidity	20%-90 % RH @ 0° to 40° C (non-condensing)	
Noise Level	Less than 40dB	
BATTERY		
Type & Number	12Vx1	12Vx2
Backup time*	≥6min(half load)	
Charging Time	12 hours recover to 90% capacity	
Dimension	98mm×280mm×150mm	133mm×320mm×190mm
Net weight	4.4kg	9.0kg

- * Normal Mode
- * The initial value of the new battery

The Caution!

This product is a Class C2 UPS for use in residential areas where installation restrictions or additional facilities may be required to suppress radio frequency harassment.

High altitude area loading= Rated power * Derating factor

Altitude	1000m	1500m	2000m
Derating factor	100%	95%	91%

Note: If the UPS is used at an altitude of 1000m or more, must be used to reduce the rated output, derating coefficient see the table above.

Trouble shooting

If the UPS is running abnormally, please refer to the following table to confirm the phenomenon, to be processed. If you can't properly handle, please contact the distributor.

Problem	Remedy
UPS input plug is plugged into mains plug Seat and the electricity is normal, the power switch has been pressed Under, but the green light flashes, the buzzer beep.	Please contact the distributor for replacement.
Battery mode power failure: In the event of a power failure, the UPS automatically shuts down automatically.	Is the battery damaged? When the electricity is normal, charge the battery for more than 6 hours, if the fault is reproduced, then The battery may be damaged, or the charging circuit is faulty. Please contact the distributor.
Green light flash, buzzer beep per 2 seconds .	Please contact the distributor.
Green light off, buzzer beep continuously .	UPS output short circuit, or other internal fault. Please contact the distributor.

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