

UPS

500 – 2000 VA

User Manual

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【 Please be kindly advised 】

- ▲ Please read this user manual carefully before operation.
- ▲ Please keep this manual handy for future reference.
- ▲ The printer socket is applicable for laser printer.(No output if mains is down).
- ▲ It is prohibited to connect loads such as electric fan, electric drill or electric dryer

Before you replace the battery of different brand and different type, make sure the charging voltage is matching with UPS charging voltage due to the different required charging voltage of different battery, If any doubt, please consult with the manufacturer.

Any changes of the system configuration, structure and composition will influence the performance of UPS, please consult with the manufacturer in prior before doing any changes.

1 · Important Safety Warnings and Information

WARNING! DO NOT USE FOR LIFE-SUPPORT EQUIPMENT

- DO NOT use this UPS for applications in which a malfunction or failure of the UPS would cause failure or alter the performance of a life-support equipment.

WARNING! RISK OF ELECTRICAL SHOCK

- The outlet receptacles may be electrically live even when the UPS is disconnected from the AC power source.
- This UPS contains potentially hazardous voltages. Do not open the UPS. There are no user-serviceable parts inside.
- Apart from battery replacement, all maintenance and service work should be performed by qualified service personnel.
- Turn off the UPS and unplug it from the AC power source before battery replacement.
- Do not connect your UPS to an outlet that is not properly grounded.
- Do not remove the ground connection from the UPS's power plug.

UPS LOCATION PLACEMENT AND CONNECTION

- Install the UPS in a clean indoor environment, away from excess moisture or heat, dust or direct sunlight, flammable gases or fumes.
- Place and operate the UPS where the surrounding temperature range is from -5°C to 40°C. Optimal battery life is obtained if the temperature does not exceed 30°C
- Keep the UPS on a flat, stable surface with adequate space around it for proper ventilation. Do not block the vents.
- The UPS must be powered from a single phase grounded wall outlet; not a surge protector or power strip. Avoid storage locations that are excessively humid, near water, near heat sources or in direct sunlight.
- Do not plug appliances such as electric heaters, toasters and vacuum cleaners into the UPS.
- Do not connect inductive loads, such as laser printers, to the UPS.

BATTERY WARNING

- This UPS contains a sealed lead-acid battery. **DO NOT** open the battery.
- DO NOT short or bridge the battery terminals with any object.
- Once the battery has reached the end of its life, ensure that they are properly disposed. **REFER TO YOUR LOCAL LAWS AND REGULATIONS FOR BATTERY DISPOSAL REQUIREMENTS.**

2、 Introduction

The Mini Guard Series UPS is an uninterruptible power supply (UPS) and protects your equipment from all forms of power problems such as blackouts, brownouts, surges, sags, etc. It is designed to support electronic equipment such as computers and telecommunications devices.

Key features:

- **Intelligent MCU Technology**

The intelligent MCU can automatically monitor the input voltage surge, sags, break, abnormal frequency, output loads and battery status providing the equipments with well protections.

- **High Reliability**

With well protections for input over-voltage/under-voltage, surge, output over-voltage, overloading, short circuit, over-charged battery and battey low, have increased the reliability.

- **DC Start and re-Startup**

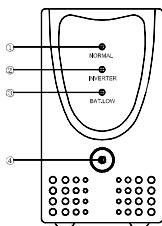
The UPS may switch on from the battery without the power source exists or re-startup when the power source is back.

- **User-friendly Power Quality Management**

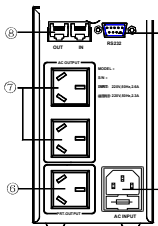
The optional intelligent software via RS232 port can save the datas and shut-down the computers automatically and provide the UPS status in real-time remotely.

3、Installation & Operation

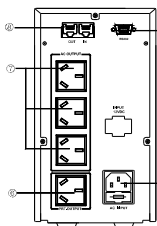
3.1 Front Panel and Rear Panel of UPS



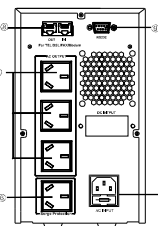
Panel of UPS Series



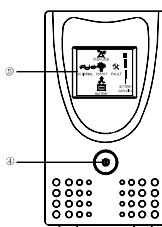
Backboard of UPS 500-700 Series



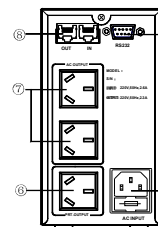
Backboard of UPS 1000 Series



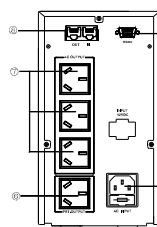
Backboard of UPS 1200LCD



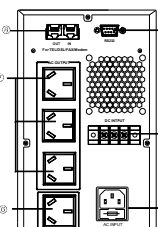
Panel of UPS Series



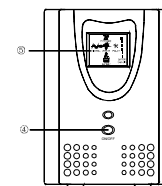
Backboard of UPS 500LCD-700LCD



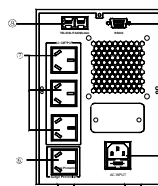
Backboard of UPS 1000LCD



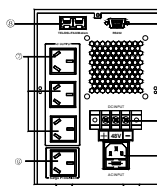
Backboard of UPS 700LCDL-1200LCDL



Panel of UPS Series



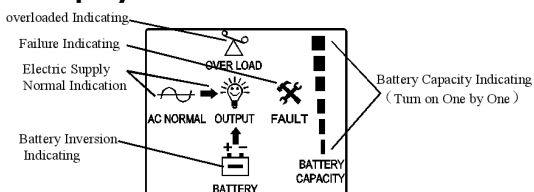
Backboard of UPS 1600LCD-2000LCD



Backboard of UPS 1600LCDL-2000LCDL

- ① Mains status Indicating Led
- ② Inverter mode status Indicating Led
- ③ Battery under-voltage Indicating Led
- ④ Power Switch
- ⑤ Graphic LCD Display
- ⑥ Surge Protection (p.s. without battery back-up)
- ⑦ Output socket
- ⑧ RJ11 Surge Protection for Tel/Fax/Modem/Network
- ⑨ True RS232 Communication Port as standard
- ⑩ Inlet with Fuse (p.s. Extra spare fuse as option)
- ⑪ Dc Input

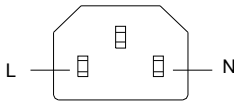
Graphic LCD Display:



3.2 Installation:








- 1) After unpacking the UPS, check whether there is any mechanical damage due to transportation. If the UPS has been damaged obviously, please contact your sales representative for assistance.
- 2) Keep the UPS on a flat, stable surface with adequate space around it for proper ventilation. Do not block the vents.
- 3) Before making any connection and switching on the UPS, please check the following conditions:
 - All the equipment connected to the UPS does not exceed the maximum output power of the UPS (as indicated on the UPS rear panel and specifications).
- 4) Connect the power cord from your equipment into an output receptacle at the rear of the UPS.
- 5) Connect the power cord of the UPS to a working, grounded AC wall socket. When AC power is available, the batteries will begin automatically charging.

The following is the schematics of Inlet:



- 6) Please allow the UPS to charge its batteries for 24 hours before turning it on. Your connected equipment will still receive power while the UPS is off. Backup time may be shortened if the UPS is not charged first.
- 7) To **Turn On** please gently press the UPS power switch for 2 seconds, and turn on the computers after the UPS startup completed.
- 8) To **Turn Off** please gently press the UPS power switch for 2 seconds until the UPS off.

3.3 Status & Alarm Indications:

UPS Status	LCD Display	Audible Alarm
<ul style="list-style-type: none"> - AC normal - AC power is connected to the loads - Battery is charging 	AC NORMAL  "On OUTPUT  " On Battery Capacity 5-segment bar-graphics (lit one by one)	n/a
<ul style="list-style-type: none"> - AC normal - AC power is connected to the loads - Battery is fully charged 	AC NORMAL  " On OUTPUT  " On Battery Capacity 5-segment bar-graphics (All lit on)	n/a
<ul style="list-style-type: none"> - AC fail - UPS is at battery mode 	BATTERY  " On OUTPUT  " On Battery Capacity 5-segment bar-graphics (Turn off one by one)	Slow beeping in every 4 seconds and beeps in every 8 seconds after 30 seconds
<ul style="list-style-type: none"> - UPS battery is fully discharged - Please save data and shut down computer immediately 	Only one battery capacity LED lits	Fast beeping in every 1 second
<ul style="list-style-type: none"> - UPS output overload - please reduce the loads 	OVERLOAD  " On	Fast beeping in every 1 second

4、Storage

- Before storing, charge the batteries for at least 24 hours.
- Be sure that the UPS is switched off and that no cable is connected to the interface port.
- Store the UPS in a dry location with a storage temperature within -5°C to 40°C.
- If the unit is to be stored for an extended period of time, then the battery must be recharged once every three months. Connect the UPS to an AC power source for a minimum of 48 hours. If the battery is not recharged, then it may suffer permanent loss of capacity.

5、Maintenance & Troubleshooting

5.1 General Problems:

Problem 1: The UPS can't turn on when power switch on.

Actions: Check if the power cord is plugged into the wall-socket properly; or the input AC power fuse has burned out.

Problem 2: Unplug the input power cord after it is turned on, but the UPS cannot work at battery mode.

Actions: There are some possible causes: battery voltage low or output overload or output short circuit. Please recharge the battery or replace it or check if the output overload to reduce the loads or if the output short circuit.

5.2 Maintenance:

5.2.1 General:

The UPS is virtually maintenance-free. Please read information regarding UPS location placement and connection under section 1.

5.2.2 Fuse:

If the AC input fuse burns out, be sure it is replaced by a compatible fuse with the same type and rating.

5.2.3 Battery:

- When replacing the battery, use the same number and voltage(V)/capacity(Ah).
- Avoid harm to the environment: proper disposal or recycling of the batteries is required. Refer to local regulations for disposal requirements.
- NEVER dispose of battery in a fire. They may explode.
- Do not open or damage the battery. The contents (electrolyte) may be extremely toxic. If exposed to electrolyte, then wash immediately with plenty of water.
- Avoid charging in a sealed container.
- Never short circuit the battery. When working with batteries, remove watches, rings and other metal objects. Only use insulated tools.
- Maintain or change the battery according to the following suggestion:

Ambient Temperature	Battery Life	Recharge/ Discharge in Every Six Months	Maintainance in Every Month
20°C	3-5 years	Within 18 months after purchase	Discharge it for 1-3 minutes in every month if there is no AC power outage
30°C	1.5-2 years	Within 10 months after purchase	

5.3 Replacing the Battery

The battery shall be replaced after the UPS has been turned off and the AC power cord has been disconnected as well.

Replacement procedures:

- 1) Turn off the UPS, and unplug all AC power cord and output receptacles;
- 2) Loose the 7 screws on the top cover;
- 3) Place the UPS upside down, and loose the 3 screws on the battery bottom cover;
- 4) Pull out the battery, and replace the new battery;
- 5) Screw up the battery bottom cover and top cover.

6. Technical Specifications

Model No.		UPS500VA/700VA/1000VA/1200VA/1600VA/2000VA
Input	Input Voltage	220/230/240Vac (+25%/-30%)
	Input Frequency	50 Hz \pm 10%
Output	P.F. (VA/W) = 0.6	300/420/600/720/960/1200 Watts
	Back-up Time	> 10 Minutes (with one PC)
	Output Voltage	220/230/240Vac \pm 10% (at Battery Mode)
	Output Frequency	When the mains is working, output is the same as input when battery mode, frequency is 50 Hz \pm 1%
Protection	Battery Over-discharging Protection	The UPS turns off automatically when the battery voltage low and battery LED on
	Overload or Short-Circuit Protection	When the output is >150% overload, and protect the battery immediately against the short-circuit
	Transfer Time	< 6ms
Status & Alarms	LCD Display & Audible Alarms (please refer to the section 3.3)	
Weight	6.0/6.5/15/20/22.5 kg	
Dimensions (D x W x H)	325x90x165 (500/700VA) 380x120x210 (1000/1200VA) 450x150x220 (1600/2000VA)	
Operating Temperature	-5 to +40 °C	
Humidity	< 90% (non-condensing)	

Note: The specifications change without notice.