

# USER'S MANUAL

Uninterruptible Power System

400VA / 600VA / 800VA /  
1000VA / 1200VA / 1500VA / 2000VA

## SAFETY – WARNING

- The voltage inside UPS may be hazardous. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Only factory service personnel may perform repairs.
- Internal battery voltage is 12Vdc. Sealed, lead-acid, 6 cells battery.
- Connection to any other type of receptacle other than a two-pole, three-wire grounded receptacle may result in shock hazard as well as violating to local electrical codes.
- 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.
- Do not allow liquids or any external objects to enter the UPS. Do not place beverages or any other liquid-containing vessels on or near the unit.
- This unit is designed for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants). Avoid installing the UPS in locations where there is static or flowing water, or excessive humidity.
- Do not plug the UPS input into its own output.
- Do not attach a power strip or surge suppressor to the UPS.
- Do not connect non-computer-related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to UPS.
- 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 air heaters or furnaces.
- Unplug the UPS prior to cleaning and do not use liquid or spray detergent.
- Do not dispose the batteries into fire as they may explode.
- Do not open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.
- 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 hands.
  - Use tools with insulated handles.
  - Wear rubber gloves and boots.
  - Do not lay tools or metal parts on top of batteries.
  - Disconnect charging source prior to connecting or disconnecting batteries terminals.
- Servicing of batteries should be performed or supervised by technical and authorized personnel only.
- When replacing batteries, replace with the same number and type of sealed lead-acid battery. The maximum ambient temperature rating is 40°C

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- 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.
- Beware of possibility of electric shock when disconnecting of this unit from the mains, hazardous voltage still may be accessible through supply from battery. The battery supply should be therefore disconnected from the plus and minus terminals of the battery when maintenance or service work inside the UPS is necessary.

## INTRODUCTION

This UPS is specially designed for Personal Computer with multi-functions. Its light weight, compact design perfect fits to the limited working environment. This line interactive UPS is equipped with boost and buck AVR to stabilize output voltage range. It is also built-in with DC start function. This function enables the UPS to be started up without AC power supplied. Although it's a small UPS, The main features of UPS are listed below:


- Microprocessor control guarantees high reliability.
- Equipped with Boost and Buck AVR.
- DC Start Function.
- Auto restart while AC recovery.
- Compact size, Light Weight.
- Provides AC Overload protection.

## TROUBLE SHOOTING

Symptom	Possible Cause	Proposed action
No LED display (for LED model), or no LCD lighting (for LCD model) on the front panel.	1. Battery weak.	1. Charge battery up to 8 hours.
	2. Battery defect.	2. Replace with the same type of battery.
	3. Power switch is not pressed.	3. Press the power switch again.
Alarm buzzer beeps continuously when AC supply is normal.	UPS overload.	Verify that the load matches the UPS capability specified in the specs.
	1. UPS overload.	1. Remove some non-critical load.
	2. Battery voltage is too low.	2. Charge battery 8 hours or more
When power failure, back-up time is shorten.	3. Battery defect due to high temperature operation environment, or improper operation to battery.	3. Replace with the same type of battery.
	Power cord is loose.	Reconnect the power cord properly.

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

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 Please do not arbitrarily disassemble, squeeze, short circuit the batteries or dispose the batteries into water or fire. Do not put the UPS in any places where is over 50°C (122°F).

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### 1. Inspection

Remove the UPS from its packaging and inspect if it is any damage that may have occurred during shipping. If any damage happened, repack the unit and return it to the place of purchase.

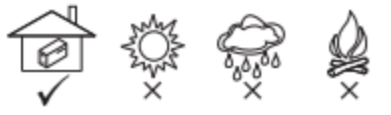
### 2. Charging

This unit is shipped from the factory with its internal battery fully charged, however, energy capacity may be lost during shipping and the battery should be recharged prior to use. Turn on the UPS, Plug the unit into an appropriate power supply and allow the UPS to charge fully by leaving it plugged in for at least 6 hours with no load (no electrical devices such as computers, monitors, etc.) connected.

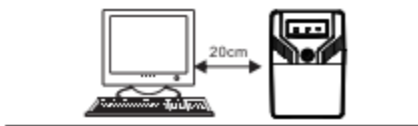


### 3. Placement

Install the UPS unit in any protected environment that provides adequate airflow around the unit, and is free from excessive dust, corrosive fumes and conductive contaminants. Do not operate your UPS in an environment where the ambient temperature or humidity is high.



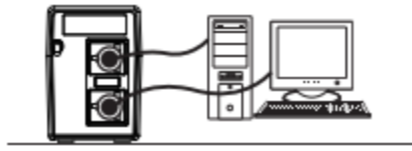
On the other hand, place the UPS away from the monitor at least 20cm to avoid interference.



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### 4. Connection

Plug the UPS into a 2-pole, 3-wire grounded receptacle. Then connect one computer-related device into each of the power receptacles supplied on the back of the UPS.



#### CAUTION

- Do not connect a Laser Printer or any non-computer peripherals to UPS outlets.
- Do not connect a surge suppressor power strip, or extension cord to the UPS outlet.



### 5. Turn On/Off

To turn on the UPS unit, press the power switch lightly. To turn off the UPS unit, press the power switch again.



### 6. DC Start

All Series are equipped with DC Start. To start the UPS when AC utility power is not available, simply press the power switch.

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## SPECIFICATION

MODEL	400VA	600VA	800VA	1000VA
<b>INPUT</b>				
Voltage	220Vac / 230Vac			
Voltage Range	140-290Vac / 140-300Vac			
Frequency Range	>40Hz (auto sensing)			
<b>OUTPUT</b>				
AC Voltage Regulation (Batt. Mode)	220vac / 230Vac±10%			
Frequency Range (Batt. Mode)	50Hz±1Hz or 60Hz±1Hz			
Transfer Time	Typical 4-8ms, 13ms max.			
Waveform (Batt. Mode)	Simulated Sine Wave			
<b>BATTERY</b>				
Battery Voltage	12V		24V	
Battery Number	4.5AH*1	7AH*1	9AH*1	7AH*2
Charge Current	1.0A			
<b>INDICATORS</b>				
LED display	AC Mode	Green LED lighting		
	Battery Mode	Yellow LED flash		
	Fault	Red LED lighting		
<b>PROTECTION</b>				
Full Protection	short circuit, overload, overcharge and overdischarge protection			
<b>ALARM</b>				
Battery Mode	Sounding every 10 seconds			
Low Battery	Sounding every second			
Overload	Sounding every 0.5 seconds			
Fault	Continuously sounding			
<b>PHYSICAL</b>				
Approx. Dimension DxWxH (mm)	315x100x143		333x130x185	
Approx. Net Weight (kgs)	3.7	4.2	4.6	7.8
<b>OPERATING ENVIRONMENT</b>				
Humidity	0-90% RH@0-40°C (non-condensing)			
Noise Level	Less than 40dB			
<b>MANAGEMENT</b>				
Communication port	For choice (USB&RJ45)			

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## SPECIFICATION

	1200VA	1500VA	2000VA
<b>INPUT</b>			
Voltage	220Vac / 230Vac		
Voltage Range	140-290Vac / 140-300Vac		
Frequency Range	>40Hz (auto sensing)		
<b>OUTPUT</b>			
AC Voltage Regulation (Batt. Mode)	220vac / 230Vac±10%		
Frequency Range (Batt. Mode)	50Hz±1Hz or 60Hz±1Hz		
Transfer Time	Typical 4-8ms, 13ms max.		
Waveform (Batt. Mode)	Simulated Sine Wave		
<b>BATTERY</b>			
Battery Voltage	24V		
Battery Number	7.5AH*2	9AH*2	9AH*2
Charge Current	1.0A		
<b>INDICATORS</b>			
LED display	AC Mode	Green LED lighting	
	Battery Mode	Yellow LED flash	
	Fault	Red LED lighting	
<b>PROTECTION</b>			
Full Protection	short circuit, overload, overcharge and overdischarge protection		
<b>ALARM</b>			
Battery Mode	Sounding every 10 seconds		
Low Battery	Sounding every second		
Overload	Sounding every 0.5 seconds		
Fault	Continuously sounding		
<b>PHYSICAL</b>			
Approx. Dimension DxWxH (mm)	333x130x185		
Approx. Net Weight (kgs)	8.7	10.0	10.7
<b>OPERATING ENVIRONMENT</b>			
Humidity	0-90% RH@0-40°C (non-condensing)		
Noise Level	Less than 40dB		Less than 45dB
<b>MANAGEMENT</b>			
Communication port	For choice (USB&RJ45)		

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