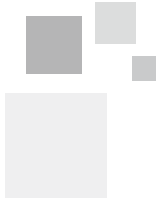




Caution!

This manual is important instructions that you should follow during installation and maintenance of the UPS. Please read all instructions before operating the equipment and save this manual for future reference.



UPS

UNINTERRUPTIBLE POWER SUPPLY

## **User's Manual**

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Sine Wave Line-Interactive

UPS

# ***CONTENTS***

<b>1. SAFETY INSTRUCTION</b>	<b>1</b>
<b>2. DESCRIPTION OF APPEARANCE</b>	<b>2</b>
<b>3. OPERATION</b>	<b>3</b>
<b>4. MAINTENANCE</b>	<b>5</b>
<b>5. SPECIFICATIONS</b>	<b>6</b>
<b>6. TROUBLE SHOOTING</b>	<b>7</b>
<b>7. INSTALLATION</b>	<b>8</b>

# 1. SAFETY INSTRUCTION

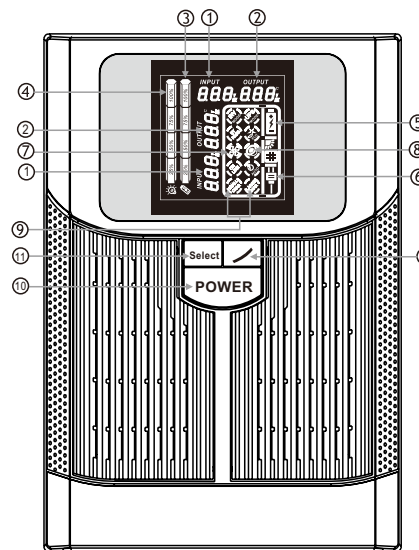
- Even UPS disconnected to city power, its sockets may with 220v voltage.
- Can not fire the battery or batteries, it may explode and injure people.
- Do not open or mutilate the battery pack, released electrolyte with strong toxicity and corrosion which is harmful to human body.
- Please avoid the battery to short circuit of plus and minus pole, it will cause electric shock or get fire.
- Please do not open the battery pack by yourself; it can cause danger of electric shock.
- Please do not touch the battery connectors. Battery loop and input voltage loop is un-segregated, it is high voltage risk between the battery connectors and ground.
- Ensure safety operation, it is inadvisable to use for electric equipment such as air blower, electric heater.

### Attention:

★ If you have any problems with the UPS, please consult the distributor, do not repair it by yourself in case risk by the high voltage inside UPS.

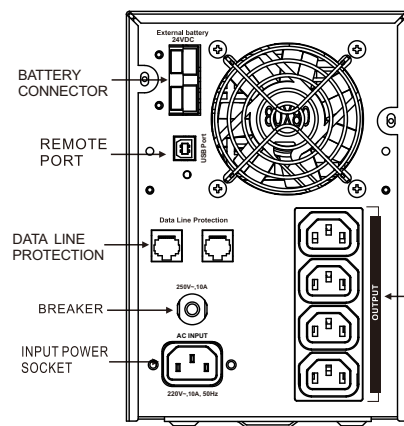
# 2. DESCRIPTION OF APPEARANCE

## 2.1 DISPLAY PANEL:

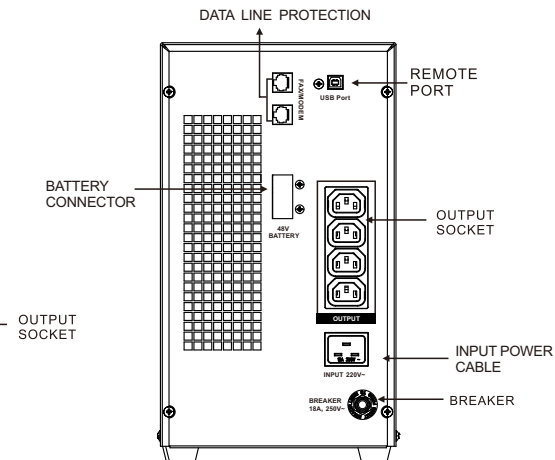


- ① AC Input Voltage / Input frequency
- ② Output Voltage / UPS's internal temperature
- ③ Battery Capacity
- ④ Load Level
- ⑤ UPS is working in battery mode
- ⑥ UPS is working in AC mode
- ⑦ Fan Failure
- ⑧ UPS will alarm in DC mode
- ⑨ Charging current mode
- ⑩ Turn on / Turn off / Silence function
- ⑪ Choosing the charging current
- ⑫ "OK" button for confirming the charging current

## 2.2 REAR PANEL:



1K, 1K5



2K, 3K

## 3. OPERATION

### 3.1 Long-term external battery operating procedures

- 3.11 Please follow the parameter table, series battery and ensure proper battery voltage first.
- 3.12 Red battery cable connects to positive and blue cable for negative. Battery cable and polarity must be connected securely. Do not short the positive and negative of the battery electrode or joint reversely.
- 3.13 When connecting the battery cable, occurrence of spark in the joints is normal phenomenon

### 3.2 Operation Modes

#### 1. Autocharging

Connected to the AC and the UPS will be charged automatically, and the UPS socket is no output voltage. When battery is not fully charged, battery capacity indicator with circle increasing percentage pattern, it shows battery is charging.

When battery is full of charge, battery capacity indicator shows 100% percentage pattern.

#### 2. AC Mode

- 2.1 When the UPS is connected to AC and after pressing the “ POWER ” button for 3 seconds, then the UPS is working in the AC Mode.
- 2.2 It should be showed the AC input voltage and the UPS output voltage accordingly.
- 2.3 The percentage of the battery capacity is consistent with the indication of the UPS charging situation.
- 2.4 When more loads are connected, it shows that the percentage of the load level will be increased correspondingly. When it is overloaded to 100%, indicator continued flickers with long beeps. We should remove the unnecessary load until stopping alarm.
- 2.5 The UPS will be turned off and no output by pressing the “ POWER ” button for 3 seconds. But the UPS is still under charging, if you want to turn off the UPS completely, please disconnect UPS to AC.

## 3. OPERATION

### 3.2 Operation Modes

#### 3. DC Mode

- 3.1 No AC input, the UPS will turn on by pressing the “ POWER ” button for 3 seconds, now the UPS is in DC Mode.
- 3.2 The buzzer will beep every 30 seconds. The UPS will be silenced by pressing the power switch shortly. When press the switch again, the beep recover.
- 3.3 When battery's capacity decreased, it shows that the percentage of battery capacity level will be increased correspondingly. When the battery is not enough, indicator continued flickers with beeps every second. We should save the documents then turn off the UPS, or connect the UPS to AC .
- 3.4 The UPS will be turned off by pressing the “ POWER ” button for 3 seconds.

## 4. MAINTENANCE

This UPS series only requires minimal maintenance. The battery of standard UPS is sealed, maintenance free type, which need charging frequently to remain its expected life. Once it is connected with utility power, whether UPS is ON or OFF, it keeps charging the batteries and also offers overcharging and over discharging protection.

- If UPS will not be using over a long period of time, please charge it once every 4 to 6 months.
- Under normal conditions, battery's life are 3 to 5 years. If the battery is found in poor performance, earlier replacement should be made and must be operated by qualified personnel.
- Do not replace the battery individually. Whole set of batteries should be replaced following the instructions from battery supplier.
- Normally, the batteries should be charged and discharged once every 4 to 6 months. Charging begins automatically after the UPS shut down by discharging, charging time for standard UPS should be at least 12 hours.
- In the regions of hot climates, the battery should be charged and discharged every 2 months, charging time for standard UPS should be at least 12 hours.

### Attention:

- ★ Please turn off the UPS and cut off the utility power before replacing the batteries.
- ★ Before disposing the batteries, remove conductive metals such as necklace, wrist watches and rings.
- ★ Please use the screwdriver with insulated handle. Do not put the tools or other conductive substances on the batteries.
- ★ When connecting the battery cable, occurrence of spark in the joints is normal phenomenon, which harmless for UPS and personal safety.
- ★ Do not short the positive and negative of the battery electrode or joint reversely.

## 5. SPECIFICATIONS

Model	1K	1K5	2K	3K	1KL	1K5L	2KL	3KL	5KL
Rated capacity	1000VA	1500VA	2000VA	3000VA	1000VA	1500VA	2000VA	3000VA	5000VA
Real power	800W	1200W	1600W	2400W	800W	1050W	1600W	2400W	4000W
Battery type	12V/7AH×2	12V/9AH×2	12V/7AH×4	12V/9AH×4	External battery				
DC voltage	24VDC		48VDC		24VDC		48VDC		
AC input voltage range	88~145±5(Vac)								
AC input frequency range	45~65HZ								
Regulated output voltage range	102~133±5(Vac)								
DC output voltage	115 V ± 5%								
DC output frequency	60HZ±0. 5HZ								
Transfer time	< 10ms								
DC output wave form	Sine wave								
Max charging current (optional)	1.5A/3A				5A/10A				
Dimensions (mm)	405×145×220		455×195×330		405×145×220		455×195×330		
Operating temperature	0~40℃								
Humidity	10 to 90% non condensing								

### GUARANTEE CERTIFICATE

Serial No.: \_\_\_\_\_

Customer's Name: \_\_\_\_\_ Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Product/Model: \_\_\_\_\_ Post Code: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Date of purchase: \_\_\_\_\_ Expire Date: \_\_\_\_\_

Dealer Signature: \_\_\_\_\_ Customer Signature: \_\_\_\_\_

## 6. TROUBLE SHOOTING

### Management chart for irregularity instance

Problem	Possible cause	Solution
The utility power is normal, but the UPS always at battery mode	UPS input breaker disconnection	Set the breaker connected
Battery discharging time diminishes	Battery is not yet be fully charged	Keep UPS connecting to utility power persistently for more than 8 hours to recharge the batteries again
	Excessive loads connected at UPS's outlets	Check the loads and remove the non-critical equipment.
	Battery aged	Replace the batteries. Please contact the distributor to obtain the parts and replacement service
The UPS cannot power on after pressing the power switch.	The power switch is pressed too briefly	Press the power switch for more than 3 seconds
	The UPS is not connected to the battery, or turn on the UPS with low battery voltage.	Connect battery to UPS, if the battery voltage is too low, please restart the UPS
	UPS fault	Please connect the distributor for maintenance service

## 7. INSTALLATION

- 7.1 Put the UPS in ventilated area, kept it away from water, combustible gas and corrosive.
- 7.2 Keep UPS upright and all the vent holes on panels opened.
- 7.3 Keep temperature around UPS in degree of 0°C to 40°C.
- 7.4 If transfer the UPS from hot space to cold space, condensation of water trop will happen, please ensure the inside and outside of UPS are totally dry , otherwise it will cause short circuit and damage the UPS.
- 7.5 Please put the UPS near to the utility power input sockets, in order to cut off the utility power in emergency situation.

### Cautions:

- ★ Please cut off the load equipment before connecting to UPS, then turn on the equipment from sequence with big load to small load.
- ★ Connect UPS to the special socket with current protection.
- ★ All the power sockets should connect with earth wire.
- ★ UPS output sockets may with current no matter it is connecting to the utility power socket or not, UPS off is not assure the component without current. In order to cut off the UPS output, please cancel the utility power supply then turn off the UPS.
- ★ It is suggested to charge batteries 8 hours for standard type UPS. UPS is automatic charging whenever power is connected. It can be used at once even without charging, but the back up time will be less then the standard value.
- ★ When connecting inductive load equipments to UPS such as motor , monitor, laser printer etc., because their start up power are too big, the estimated capacity of load should be as same as start up power. Start up power is two to five times as regular capacity which based on the load characteristic.(More details please read the chapter 2 "DESCRIPTION OF APPEARANCE")