

# USER'S MANUAL



**UPS**



1<sup>st</sup> Edition

**Uninterruptible Power System**

*IP-021-113-01*

## Important safety instructions

---

Thank you for selecting this uninterruptible power system (UPS). It provides you with better protection for connected equipment.

### ***Please read this manual!***

This manual provides safety, installation and operating instructions that will help you derive the fullest performance and service life that the UPS has to offer.

### ***Please save this manual!***

It includes important instructions for the safe use of this UPS and for obtaining factory service should the proper operation of the UPS come into question.

### ***Please save or recycle the packaging materials!***

The UPS's shipping materials were designed with great care to provide protection from transportation related damage. These materials are invaluable if you ever have to return the UPS for service. Damage sustained during transit is not covered under the warranty.

## Talbe of contents

---

<b>01. Introduction.....</b>	<b>1</b>
<b>02. Safety.....</b>	<b>2</b>
<b>03. Overview</b>	
<b>Front Panel.....</b>	<b>3</b>
<b>Rear Panel.....</b>	<b>4</b>
<b>04. Installation Guide.....</b>	<b>5</b>
<b>05. Computer Interface Port.....</b>	<b>9</b>
<b>06. Battery Replacement.....</b>	<b>10</b>
<b>07. Troubleshooting.....</b>	<b>11</b>
<b>08. Storage.....</b>	<b>12</b>
<b>09. Specifications .....</b>	<b>12</b>
<b>10. Run Time.....</b>	<b>13</b>
<b>11. Notes .....</b>	<b>14</b>

## 1. Introduction

---

---

### 1-1 System Description

The product is line interactive UPS with the newest technology and powerful function. The LINE INTERACTIVE UPS is with AVR function allows input voltage range from 75% to 125%, including on line voltage boost-up & buck down. An ideal protection equipment for critical connected loads.

In addition, This UPS provides advanced single telephone line or modem surge suppression through the modular connectors on the back panel.

The LINE INTERACTIVE UPS and RUPS2000 monitoring software (optional kits) makes our computer operate intelligent and provides you with the ability of perfect protection of your critical devices.

### 1-2 Features:

- Line Interactive Design.
- User Replaceable Battery Design.
- User-friendly LED Display.
- Equipped with Boost and Buck AVR to Stabilize input voltage.
- Provide lightning, surge, overload, and short-circuit protection.
- Built-in CCCV battery charger and battery over drain protection.
- Auto restart when AC recovery.
- Cold start function. (DC power on)
- Tel / Modem / Fax / Internet surge suppression. (Option)
- Option Bundle software : Automatically save your valuable files before auto shutdown

## 2. Safety

---

---

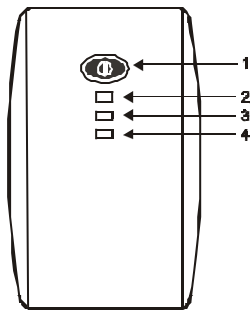
- The UPS contains voltage that is potentially hazardous. Qualified service personnel should perform all repairs.
- The UPS has its own internal energy source (battery). The output receptacles may be active even when the UPS is not connected to an AC supply.
- The UPS is suitable for computers and electronic equipment with substantial rectifier or capacitive loads, not suitable for electronic equipment with significant inductive loads, such as motors & fluorescent lamps.
- Be sure to operate within the power rating of the UPS. Below 1/2 or 1/3 of the rated power is recommended for longer backup time & longer battery life.
- Do not place the UPS near excessive humidity, under sunshine, or close to heat-emitting sources.
- If the UPS is out of order, detach the power cord and consult your dealer right away. Do not remove cover; there is no serviceable part inside.
- The unit should be supplied by a grounded source. Do not operate the unit without a ground source.

- The socket-outlet should be installed near the equipment and be easily accessible.
- Do not plug the UPS's power cord into itself. That will result in a safety hazard.
- A qualified technician or electrician in accordance with local electrical codes should perform installation.

### 3. Overview

#### Front Panel

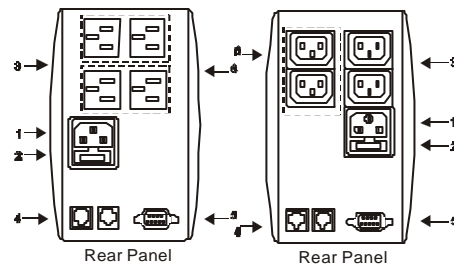
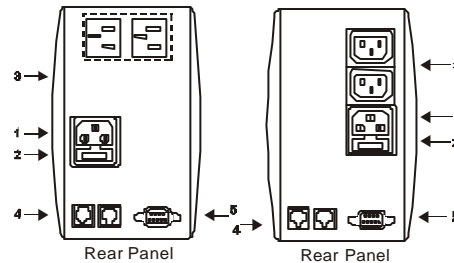
1. **Master power switch:** Turn On and Turn Off UPS.
2. **ON-LINE LED:** AC normal.
3. **BACK-UP LED:** Battery in backup.
4. **FAULT LED:** Overload or Fault.



Front Panel

#### Rear Panel

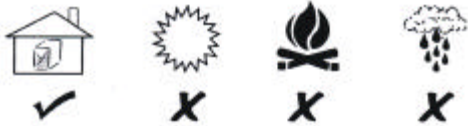
1. AC Inlet: Connect to input power cord.
2. Input Fuse: Provides circuit overload and fault protection for the UPS and load.
3. AC Output: Connect to load.
4. Data Line Surge Protection (RJ-11): Phone / Fax / Modem to surge protection.
5. Communication interface: Transmits UPS status and receives control commands from the computer system (Optional).
6. (Optional) Output receptacles: Full time surge protection



## 4. Installation Guide

### 4-1 Placement

The UPS must be installed in a protected environment away from heat-emitting appliances such as a radiator or heater. Do not install this product where excessive moisture is present.



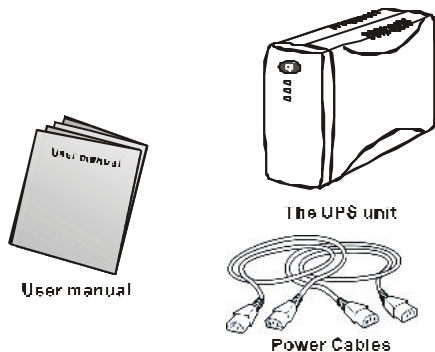
### 4-2 Step-by-step guide

Installing the UPS is as easy as following the steps shown. Skip steps 4 and 5 if you do not need Internet / network protection.

#### 1. The UPS and accessories.

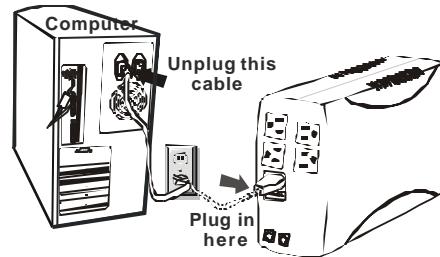
The UPS package comes with the following items:

- The UPS Unit
- A: Power Cables (for IEC-320 Rear Panel)  
(2 Pcs For 650VA~850VA)
- B: Power Cord : AMERICAN  
(For NEMA 5-15R Rear Panel)
- User's Guide



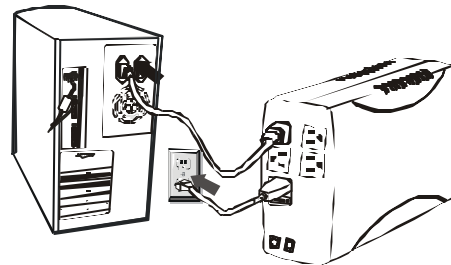
### 2. Connecting power to the UPS

Ensure all power switches are off. Remove the power cable at the back of your computer and plug it into the socket marked "AC Input" at the back of the UPS.



### 3. Connecting the UPS to your computer

Use the power cable supplied to connect UPS to your computer. Plug one end of the cable to the socket marked "AC Output" at the back of the UPS.

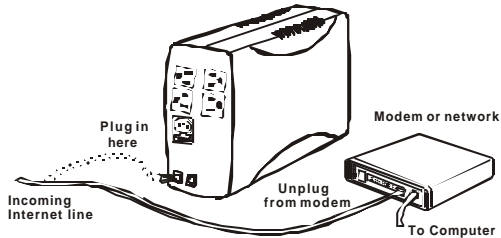


---

---

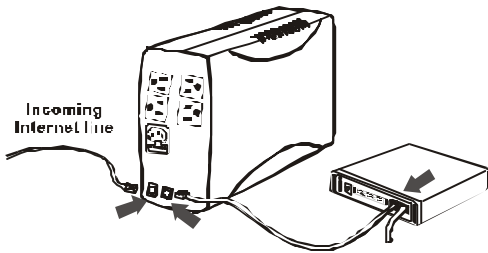
#### 4. (Optional) Connecting the UPS to Internet Line

If you use the Internet, then unplug the cable at the back of the modem and plug it into the "RJ-11/ In" socket at the back of the UPS.



#### 5. (Optional) Connecting the UPS to Internet modem

After step 4, use the Internet line cable supplied to connect the UPS to the modem. Plug one end of the Internet line cable to the "RJ-11/Out" socket at the back of the UPS and plug the other end to the modem cable input socket as shown.

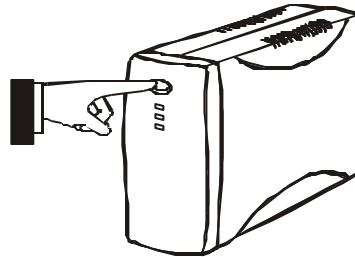


---

---

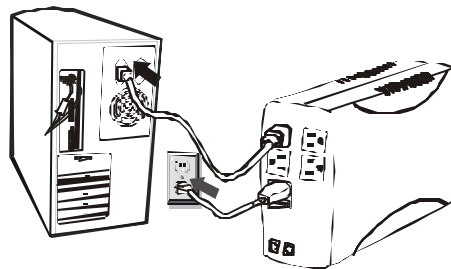
#### 6. Switching the power on

After connecting your computer to the output receptacles of the UPS, turn on the power switch of UPS firstly, then the green LED will light up which indicates AC utility voltage is present..



#### 7. Testing the UPS

To test backup function, you may disconnect the power cord of the UPS from wall outlet. The green LED will start blinking and alarm will beep every 3 seconds. When battery approaches low level, alarm will beep every second until auto shut down.



## 5. Computer Interface

### Pin out information:

Pin 2: Power failure. The relay will close when input power fails.

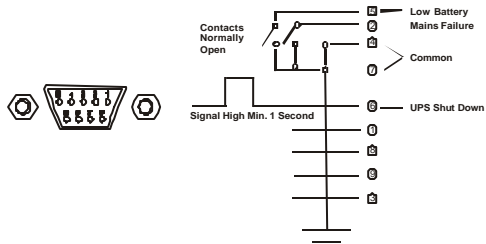
Pin 4: Common Ground for pin 2 and pin 5.

Pin 5: Battery Low. The relay will close when the battery inside the UPS has less than about 1.5minutes of backup time left.

Pin 6: Shut Down UPS. User may send a high level signal (+5V~+12V) for over 3 second to turn off the UPS. It can only activate when input power fails.

Pin 7: Common Ground for pin 6.

### D-SUB 9 Pin Female Connector



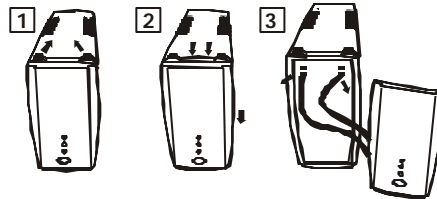
## 6. Battery Replacement

This procedure requires a screwdriver.

**Note:** Please read the cautions in the IDEAL Safety Information Guide first!

### Take off Front Panel:

1. Push off foot pad
2. Insert flat (-) screwdriver to wedged-shape to move front panel.
3. Disconnect the two wires from battery.



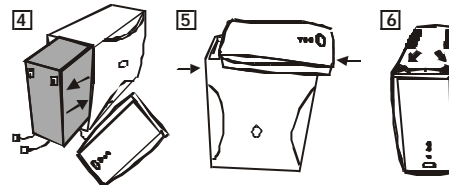
### Put on Front Panel:

4. Place the new battery into UPS, and connect the two wires to the battery.

**Note 1:** Be careful the red wire to "+", black wire to "-".

**Note 2:** Small sparks at the battery connections are normal during connection.

5. Put Front Panel to match box position.
6. Put on foot pad.



Dispose of the old battery properly at an appropriate recycling facility or return it to the supplier in the new battery's packing material.

## 7. Troubleshooting

If the UPS failed to operate properly, please review the following checks firstly. If the problem remain, please consult sales agent for service.

- Is the Master power switched on?
- Is the UPS plugged into a correctly working outlet?
- Is the line voltage within the rating specified?
- Is the fuse on the rear panel blown?
- Is the UPS over loaded?
- Is battery not fully charged? Dead battery? Charger failure?

Please provide the following information when call for service.

1. Model number, serial number.
2. Date of the problem occurred, date of purchase.
3. Full description of the problem, including load, LED, and alarm status, installation condition, working environment, etc.

TroubleShooting Chart		
Problem	Possible Cause	Caution To Take
No light, and no alarm (UPS not on)	Rear panel switch in off position.	Turn on switch.
	Rear panel fuse burnt.	Replace fuse, restart UPS.
	Power cord lose.	Check input power.
No "Line LED" light, and alarm beeps every few seconds	Power cord lose.	Check input power.
	AC fuse burnt.	Replace fuse, if problem remains, call for service.
Backup time is less than the rating.	Battery is not fully charged, or dead battery, or charger failure.	Recharge the battery for at least 8 hours, re-test the backup time. If problem remains, call for service.

## 8. Storage

Before storing, charge the UPS for at least 10 hours. Disconnect the interface cable, to prevent unnecessary battery drain. Store the UPS covered and upright in a cool, dry location.

### Extended Storage

Storage Temperature	Recharge Frequency	Charging Duration
5 to 86 (-15 to 30)	Every 6 Months	10 Hours
88 to 113 (30 to 15)	Every Month	10 Hours

## 9. Specifications

Model No.		250VA to 850VA
Input	Voltage	100VAC, 110VAC, 120VAC, 220VAC, 230VAC or 240VAC + 25% / - 25%
	Frequency	50Hz OR 60Hz +/- 5%
	Voltage	100VAC, 110VAC, 120VAC, 220VAC, 230VAC or 240VAC
	Voltage regulation	+/- 10%
	Frequency	50Hz OR 60Hz
	Frequency regulation	+/- 1Hz
	Waveform	Simulated sine wave
	Power factor	0.6
	Transfer time	Less than 4ms(typical)
Battery	Battery type	Sealed, maintenance-free lead acid batteries with 3-6 years typical lifetime
	Back up time	5-30 minutes, depending on the load condition
	Recharge time	5 hours to 90% of full capacity
Indicator	LED	LED indicator for line on, battery back-up, UPS cut off
Alarm	Battery Back-up	Sounding every 3 seconds
	Battery Low	Sounding every 1 seconds
	Overload	Continue beeping sound
Protection	Overload	Fuse & current limited
	Short circuit	Fuse & current limited & cut-off
	Batt. Low cut-off	No battery drain after cut-off
Physical	Dimension, D*W*H	290*95*170 mm
Environment	Operating Temperature	32°F-104°F at full load, 0-90% relative Humidity(non-condensing)
	Noise level	Less than 40db (at 1 meter)
Interface	Contact closure	Db9 connector for connecting with ups software
	Software	Rups 2000 (Option)

\*Specifications are subject to change without prior notice

## 10. Run Time(minutes)vs.Power Demand

System Description	UPS Model			
	Watts	250 to 450VA	500 to 650VA	700 to 850VA
Desktop/Mini Tower Pentium w/14" or 15" Monitor	110	13	20	32
Desktop/Mini Tower Pentium w/17" Monitor	130	9	17	26
Desktop/Mini Tower Pentium II/Pentium Pro w/14" or 15" Monitor	130	9	17	26
Tower Pentium II/Pentium Pro w/14" or 15" Monitor	150	7	14	20
Tower Pentium w/17" Monitor	150	7	14	20
Desktop/Mini Tower Pentium II/Pentium Pro w/17" Monitor	150	7	14	20
Desktop/Mini Tower Pentium w/21" Monitor	170	5	12	16
Tower Pentium II/Pentium Pro w/17" Monitor	170	5	12	16
Desktop/Mini Tower k6 w/21" Monitor	180	-	10	14
Tower Pentium w/21" Monitor	190	-	9	13
Desktop/Mini Tower Pentium II/Pentium Pro w/21" Monitor	190	-	9	13
Tower Pentium II/Pentium Pro w/21" Monitor	200	-	7	10

NOTE: These values are approximate . Battery age, excessive use ,and elevated operating temperature may further decrease your runtime.

## 11. Notes

