

USER`S MANUAL

UPS



1st Edition

Uninterruptible Power System

IP-Pro-115-01

Talbe of contents

01. Introduction	1
02. Safety	2
03. Overview	
Front Panel	3
Rear Panel	4
04. Installation Guide	5
05. Operation	7
06. Alarm and Display	8
07. Basic Indication Table	9
08. Storage	9
09. Interface port & Software	10
10. Battery Replacement	11
11. Troubleshooting	12
12. Specifications	13
13. Notes	14

12. Specifications

Technical Specifications		
Input	Voltage	100VAC, 110VAC, 120VAC or 220VAC, 230VAC, 240VAC
	Frequency	45Hz~ 65Hz (auto sensing)
	Voltage Range	70~150Vac / 140~300Vac
Output	Voltage	100VAC, 110VAC, 120VAC or 220VAC, 230VAC, 240VAC
	Voltage regulation (Batt. Mode)	+/- 8%
	Frequency	50Hz or 60Hz
	Frequency regulation (Eall. Mode)	+/- 1Hz
	Waveform	Simulated sinewave
	Power factor	0.6
	Transfer time	Less than 4ms(typical)
Battery	Battery type	Sealed, maintenance-free lead acid batteries with 3-5 years typical lifetime
	Back up time	5-30 minutes, depending on the load condition
	Recharge time	5 hours to 90% after complete discharge
Indicator	AC Mode	Green LED lighting
	Backup Mode	Yellow LED lighting
	Cut-off/Fault Overload On Scheduled	Red LED lighting
Alarm	Battery Back-up	Sounding every 3 seconds
	Battery Low	Sounding every 0.5 seconds
	Battery Replacement	Sounding every 0.3 seconds
	Overload	>120% loads, Continuously beeping sound
Protection	Overload	>120% loads, Continuously beeping sound
	Short circuit	UPS automatic shutdown if output short at 1 second
	Batt. Low cut-off	No battery drain after cut-off
Physical	Dimension, D*W*H	290*95*170 mm
Environment	Operating Temperature	32F-104F at full load, 0-90% relative Humidity(non-condensing)
	Noise level	Less than 40db (at 1 meter)
Interface	Smart RS-232	Support windows 95/98/nt/2000/XP/Me, Novell, and Linux
	Software	UPSilon 2000 (Option)

*Specifications are subject to change without prior notice

11. Troubleshooting

If UPS is failure to show abnormal operation, firstly user can check following points step by step. If the UPS problem is still existing after checking following steps, please contact Technical Service Center to go further analysis by Experienced Engineer.

- 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 blownd (at rear panel)?
- 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	Action To Take
UPS cannot turn on LED not light	ON/OFF/TEST/SILENCE button not pushed or plsh time too short	Press the ON/OFF/TEST/SILENCE button more than 2 seconds
	Battery voltage less than 10V	Recharge the Battery
	PCB failure	Replace the PCB, call for service
	Load less than 25w at battery mode	Normal condition, "No load shutdown function" is active
UPS always at battery mode	Power cord lose	Plug in the power cord
	AC fuse burn out	Replace the AC fuse
	PCB failure	Replace the PCB, call for service
Backup time too short	Battery not fully charged	Recharge the UPS at least 5 hours
	Battery defective	Replace the Battery, call for service
Buzzer continuous beeping	Overload	Remove some loads

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 **70Vac(140Vac)** to **150Vac(300Vac)**, 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 **UPSilon-2000** 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.
- Microprocessor control guarantees high reliability.
- Equipped with 3-Step Boost and 2-Step Buck AVR to stabilize input voltage.
- Built-in DC start function enables UPS to be started up without AC power supplied
- Auto restart while AC recovery.
- User Replaceable Battery Design.
- Provides Modem/Phone line surge protection.
- Energy saving function (UPS green mode).
- 50/60Hz frequency auto sensing.
- Provides lightning, surge, and short-circuit and overload protection.
- Built-in CC/CV battery charger and battery auto test.

9. Interface port & Software(Optional)

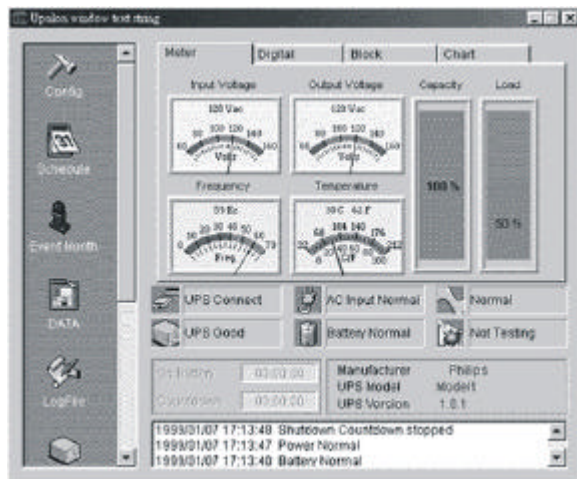
UPSilon 2000 is one of best monitoring software that real-time display UPS status in analog & diagram, also allows monitoring remote UPS via Intranet or Internet.

Operating Systems Supported:

Novell Netware
Microsoft Windows 95
Microsoft Windows 98
Microsoft Windows NT
Microsoft Windows 2000
Microsoft Windows Me
Microsoft Windows XP
Free BSD
Linux

UPSilon 2000 Features:

- Saves files before automatically shutdown.
- Flexible schedule to set UPS shutdown / reboot and programmable self-tests.
- Real-time graphical display of UPS status including input/output voltage, frequency
- Load, temperature, capacity.
- Automatic sending of warning message via Email.
- Multi-language versions.



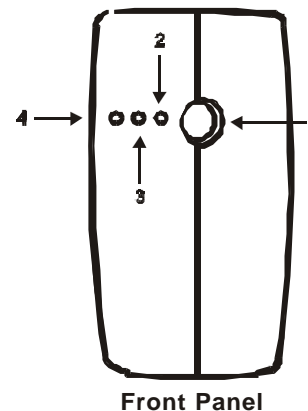
2. Safety

- 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

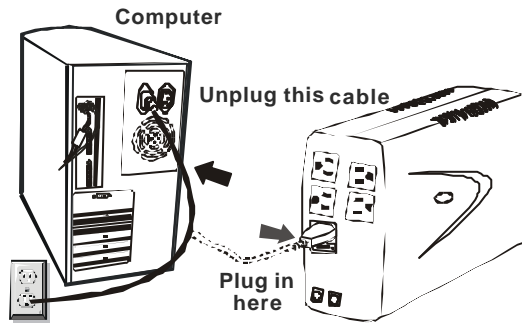
Front Panel

1. **Master power switch:** "ON/OFF/TEST /SILENCE" button.
2. **Line-On LED:** AC normal.
3. **Back-Up LED:** Battery in backup.
4. **Cut-Off LED:** Overload or Fault or Replace Battery.



2. Connecting power to the UPS

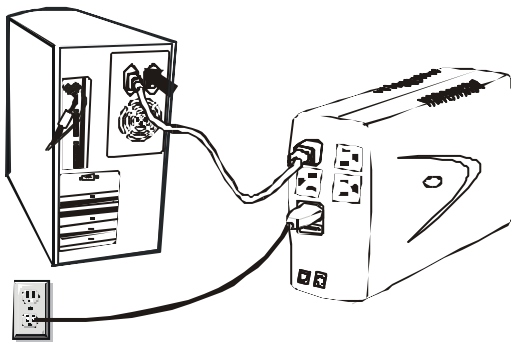
- a. Please notice the voltage of utility power should match with the UPS. For example, the rating voltage of UPS is 110V(220V), the input utility power should be the same as 110V(220V).
- b. Remove the power cable at the back of your computer and plug it into the socket marked "AC Input" at the back 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.

CAUTION : Never connect a laser printer or plotter to the UPS. A laser printer or plotter periodically draws significantly more power than its idle status, and may overload the UPS.



5. Operation

5.1 Switch on with "Green Mode" Function:

When utility input is connected to the UPS ,press "ON" button and keep pressing until the "Bi" beep 2 seconds to turn on the UPS. In order to save the power , it will also automatically enable the "Green mode"-No load (or light load) shut-down function under backup mode (about 3 minutes later).

ATTENTION: At backup mode , UPS can be automatically shut-down if none of the connected loads is operating.(Green mode; No Load shut down function) Once the utility power is normal again, the unit can be waked up by itself.

5.2 Switch on with "Disabled Green Mode" Function:

When utility input is connected to the UPS, Press "ON" Button and keep pressing unit the "Bi.....Bi-Bi" beeps stopped to turn on the UPS. After that , connect the electrical cords of the equi-pments that will be used(such as Note-book computer and LCD monitor) to the rear panel of UPS. If the load is lighter than 15W ,please also refer this function to avoid any inconvenience cause by "Green Mode" function.

5.3 Switch off :

Press the "OFF" button at "LINE" or "BACK-UP" modes and keep pressing more than 3 second to turn off the UPS.

5.4 Silence:

When UPS is under "BACK-UP" mode, press the "SILENCE" button about 1 second to silence the audible alarm. The function is disabled when UPS is under condition of "LOW BATTERY" or "OVERLOAD".

5.5 Self-test function:

Press the " TEST " button at " LINE " mode about 1 second, UPS will perform self-test procedure automatically.

6. Alarm and Display

6.1 "BACKUP"(slow alarm):

When the UPS is working under "BACKUP" mode, the UPS would emit audible alarm. The alarm stops when the UPS is return to "LINE" mode operation.

ATTENTION: The alarm of "BACKUP" is going to beep every 3 seconds.(Slow-speed beep).

ATTENTION: The UPS provides mute function for the warning. When the beeping sound occurs, press "ON" to stop it; and press "ON" again to resume the sound.

6.2 "LOW BATTERY" (rapid alarm):

In the "BACKUP" mode. When the energy of battery becomes to lower level. The UPS beeps rapidly until the UPS shuts down from battery exhaustion or returns to "LINE" mode operation.

ATTENTION: The alarm of the batteries caused by low voltage beeps every 1 second.

ATTENTION: The rapid alarm under "LOW BATTERY" condition cannot be muted.

6.3 "OVER LOAD"(continuous alarm):

When the UPS is working under overload condition(the connected loads exceed the maximum rated capacity), the UPS will emit continuous alarm to warn an overload condition. Please disconnect nonessential devices from UPS to eliminate the overload alarm.

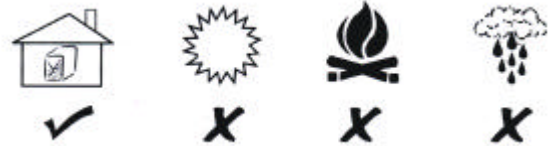
6.4 "REPLACE BATTERY" (rapid alarm):

When AC Mains is at normal condition and UPS is connected , the Red LED of UPS is lighting as well as Buzzer continuously sound (Bi.Bi.Bi, every 0.3 seconds) .It means the battery is defective and ask for experienced technician to change new Battery or call for Service .

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.

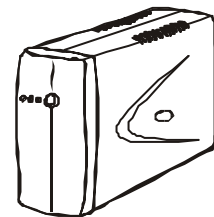
1. The UPS and accessories.

The UPS package comes with the following items:

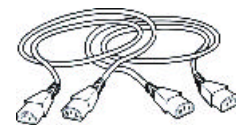
- The UPS Unit
- A:Power Cables(for IEC-320 Rear Panel)
(2 Pcs For 650VA~850VA)
- B: Power Cord : AMERICAN
(For NEMA 5-15R Rear Panel)
- User`s Guide



User manual



The UPS unit



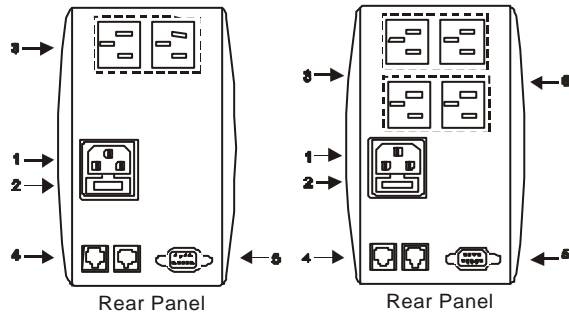
Power Cables

3. Overview

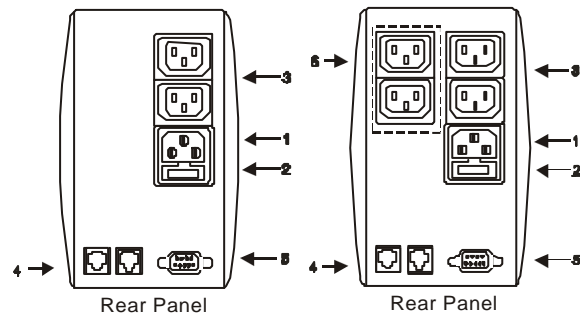
Rear Panel

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.
6. **(Optional) Output receptacles:** Full time surge protection

NEMA 5-15R



IEC-320



7. Basic Indication Table

Condition	LED			Audible Alarm	Status
	G	Y	R		
AC Mode	■	□	□	No Beep	Utility Good
Batt. Mode	□	■	□	Sounding every 3 seconds	Utility Fault, On Battery
Low Batt.	□	■	□	Sounding every 0.5 seconds	On Battery, Battery Low
Fault Cut-off	□	□	■	No Beep	Battery Low, Output OFF
Overload	■	□	■	Continuously Sounding	Remove some loads
Defective Battery	■	□	■	Sounding every 0.3 seconds	Battery NG
Over charging	■	■	■	Continuously Sounding	Battery over charging
On Scheduled	■	□	■	No Beep	UPS Normal, Output OFF

■ Light

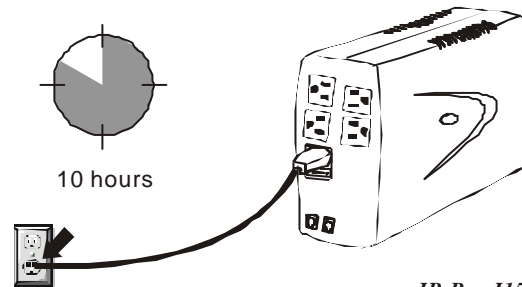
□ Not Light.

8. Storage

This unit is shipped from the factory with its internal battery fully charged, however, some charge maybe lost during shipping and the battery should be recharged prior touse. Plug the unit into an appropriate power supply and allow the UPS to charge fully by leaving it plugged in for at least 10 hours.

Extended Storage

Storage Temperature	Recharge Frequency	Charging Duration
5 to 86 (-15 to 30)	Every 6 Months	10 Hours
86 to 113F (30 to 45C)	Every Month	10 Hours



10 hours

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.

10. Battery Replacement

This procedure requires a screwdriver.

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

Take off Front Panel:

1. Insert flat (-) screwdriver to move front Panel.



2. Disconnect the two wires from battery.



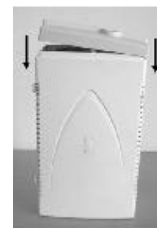
3. Place the new battery into UPS, and connect the two wires to the battery.

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

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

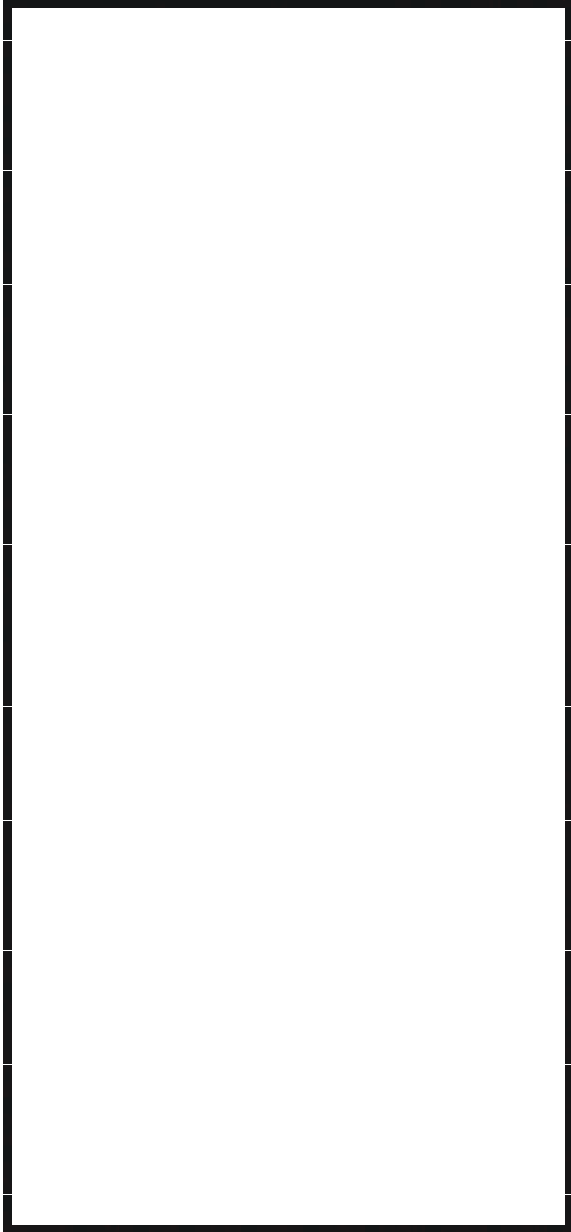
Put on Front Panel:

4. Put Front Panel to match box position.



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

13. Notes



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 designing with great care to provide protection from transportation related damage. There materials are invaluable if you ever have to return the UPS for service. Damage sustained during transit is not covered under the warranty.