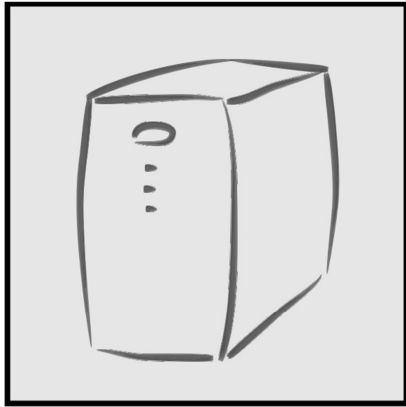


USER'S MANUAL



Uninterruptible Power System

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 are 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.

IP-DB9-10

1 INTRODUCTION

1-1 System Instruction

The product is line interactive UPS with the newest technology and powerful function. The LINE INTERACTIVE UPS is with AVR function and 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 iMate monitoring software (optional kits) make your computer operate intelligently and provide you with the ability of perfect protection of your critical devices.

1-2 Features:

- Line Interactive Design.
- User replaceable battery design.
- Easy 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 Bundle software : Automatically save your valuable files before auto shutdown

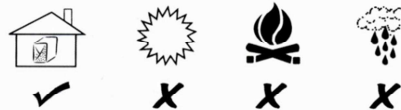
2 CAUTION

- 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 INSTALLATION

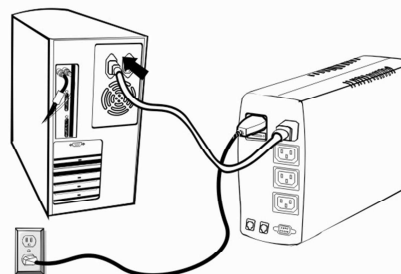
The UPS must be installed in a protected environment away from heat-emitting appliances such as a radiator or heater. Do not install this product where excessive moisture is present.



* Computer Connect

Please disconnect power cord of computer and then plug it into UPS input socket. Afterwards, use supplied power cord to connect computer to UPS output socket. (This connection type is specialized for IEC type output socket only)

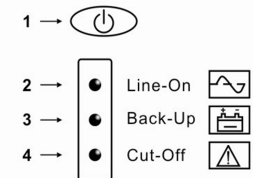
CAUTION : Never connect a laser printer or plotter to the UPS. A laser printer or plotter periodically draws significantly more power than its idle status, and may overload the UPS.



4 OVERVIEW

■ Front Panel

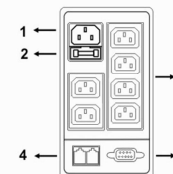
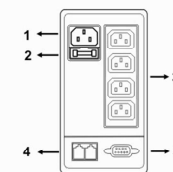
1. **Master power switch:** "ON / OFF" button.
2. **On-Line LED:** AC normal.
3. **Back-Up LED:** Battery in backup.
4. **Cut-Off LED:** UPS Off.



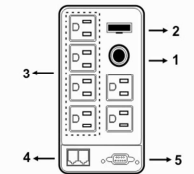
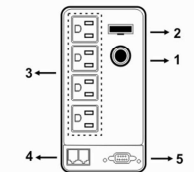
■ Rear Panel

1. **AC Input:** Connect to input power cord.
2. **AC Fuse:** Provides circuit overload and fault protection for the UPS and load.
3. **Outlets**
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)

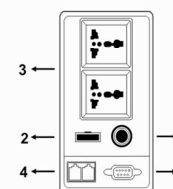
■ IEC-320



■ NEMA 5-15R



■ UNIVERSAL R4



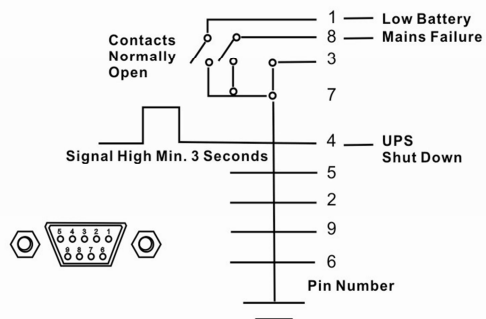
5 COMPUTER INTERFACE

The computer interface (DB9 port) on the back of the UPS may be connected to a host computer. This port allows the computer to monitor the status of the UPS and control the operation of the UPS.

Pin Out Information:

PIN#	Description	I/O
PIN1	Battery low, normally open, active close	Output
PIN2	N.C.	
PIN3	Common Ground	
PIN4	Remote shut down, keep this pin high (+5~+12V) for 3S will turn off the UPS	Input
PIN5	N.C.	
PIN6	N.C.	
PIN7	Must keep in high state	Input
PIN8	Line fail, normally open, active close	Output
PIN9	N.C.	

D-SUB 9 Pin Female Connector

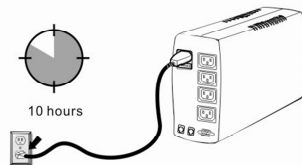


6 STORAGE

This unit is shipped from the factory with its internal battery fully charged, however, some charge may be lost during shipping and the battery should be recharged prior to use. 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 F (-15 to 30 C)	Every 6 Months	10 Hours
86 to 113 F (30 to 45 C)	Every Month	10 Hours



7 SOFTWARE

iMate is a UPS monitoring and controlling software that continuously checks the status of system AC power and UPS battery condition both of local and network UPS. (Option)

Hardware Requirement:

- Free RS232 port: COM1 to COM4
- Dry Contact (DB9) UPS

Operating Systems Supported:

Novell Netware
MS-windows 95,98,NT,2000,ME,XP,2003
Linux

iMate Features:

- Supports Windows NT service function.
- Supports multiple languages.
- Auto-sends warning messages by e-mail.
- Auto-calls warning messages by pager.
- Monitors UPS remotely via TCP/IP or internet.
- Broad casts warning messages and record abnormal power status.
- Sets shutdown countdown time and warning message intervals
- Automatically shuts -down and saves applications data before exit.



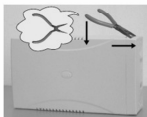
8 BATTERY REPLACEMENT

This procedure requires a screw driver.

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

Take off Front Panel:

1. Insert Nose Plier 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.

9 TROUBLESHOOTING

If UPS is failed 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 correct working outlet?
- Is the line voltage within the rating specified?
- Is the fuse blown (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
No light, and no alarm (UPS not on)	Front panel switch in off position	Turn on switch
	Rear panel fuse burnout	Replace fuse restart UPS
	Power cord lose	Check input power
No "Line-on LED" light, and alarm beeps every few seconds	Power cord lose	Check input power
	AC fuse burn out	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 6 hours, re-test the backup time. If problem remains, call for service.

10 SPECIFICATIONS

INPUT	
Voltage	110VAC, 115VAC, 120VAC or 220VAC, 230VAC, 240VAC +/-25%
Frequency	50Hz~ 60Hz +/-5%
OUTPUT	
Voltage	110VAC, 115VAC, 120VAC or 220VAC, 230VAC, 240VAC
Voltage regulation (Batt. Mode)	+/- 10%
Frequency	50Hz or 60Hz
Frequency regulation (Batt. Mode)	+/- 1Hz
Waveform	Modified sinewave
Power Factor	0.6
Transfer Time	Less than 6ms(typical)
BATTERY	
Battery Type	12V
Recharge Time	5 hours to 90% after complete discharge
INDICATOR	
AC Mode	Green LED lighting
Backup Mode	Yellow LED lighting
UPS Cut-off	Red LED lighting
ALARM	
Battery Back-up	Sounding every 3 seconds
Battery Low	Sounding every 1 second
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	32~104 degree F at full load, 0~90% relative humidity (non-condensing)
Noise Level	Less than 40db (at 1 meter)
INTERFACE	
DB9	Support windows 95/98/NT/2000/Me/XP/2003 Novell Netware, and Linux
Software	iMate (Option)

*Specifications are subject to change without prior notice