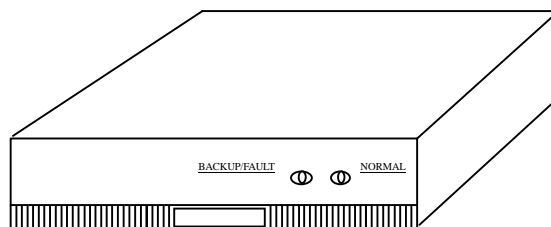


UPS + AVR

Uninterruptible Power System

User's Manual

AS-375



Not only for P.C., but also for Fax & Modem

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1. INTRODUCTION:

This is a high performance stand-by Uninterruptible Power Supply (UPS) designed to protect your computer and fax machine from utility line failure. In the event of utility failure (blackout), the UPS will rapidly transfer loads to an alternative power source, which derives power from batteries set inside the UPS. The backup time for a Pentium IV including 17"SVGA monitor is about 8 minutes, or 11 minutes for a Pentium IV including 15" SVGA monitor.

2. MAIN FEATURE:

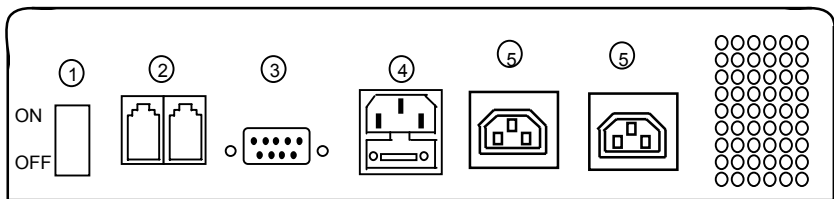
- ※ 'Green Power' based design with auto on/off function.
- ※ Extra wide-range AVR function.
- ※ Standard RS-232 port for monitoring function.
- ※ Double protections for over load & short circuit.
- ※ Auto test when turn on.
- ※ Auto-detect input frequency 50Hz/60Hz.



3. CAUTION:

- ※ The UPS is suitable for capacitate load, such as computer & PABX. However, it is not suitable for inductive load, such as motor, fan, or laser printer.
- ※ When installation, please make sure the load is not over the rated capacity of the UPS. When blackouts happen LED will turn to red and alarm will beep if the load is close to the rated value. Meantime, the UPS will shut down automatically for protecting UPS itself.
- ※ The UPS is shipped from the factory with fully charged internal batteries; however, the batteries may lose some energy during delivery and storage. To ensure that the UPS will provide the expected run-time, the UPS must be charged for at least 6 hours before your first use. Please simply turn on the UPS after installation when city power is normal, and the batteries will be charged automatically.

4. INSTALLATION & OPERATION:

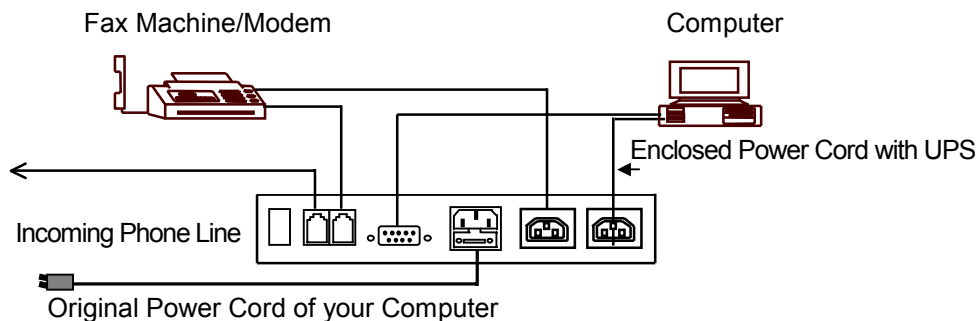
※ Rear Panel



1. Power Switch.
2. Input / Output Terminals of Fax Signal.
(Either one can be input or output)
3. DB9 Connector, for monitoring With P.C.
4. Inlet of City Power.
5. Outlet (Available for IEC as shown above, & NEMA  , also available for universal type  with additional charge.).

4.1 Installation

- 4.1.1 Connecting the UPS & city power with the original power cord of your computer. If an extension cord must be used between the UPS and the nearest wall outlet, use a 3-wire grounding type with rated value for at least 5 Amps.
- 4.1.2 Connecting outlets & phone line as shown below.
- 4.1.3 Turning on power switch.



4.2 Operation:

4.2.1 When the power switch is turned on, UPS will go through the procedure of self-test (about 3-4 sec.). If test result is O.K, the green LED will be on.

4.2.2 While if it is over loaded, the UPS will alarm. Or if the battery level is low, it will emit quick beeps for several seconds and stay in normal mode for recharging.

Please also refer to the “LED/Alarm Indication” in item 5.3.

4.2.3 Green power function

When blackout occurs, the UPS will shutdown the power automatically within 30 seconds if the output power is lower than 25W.

4.2.4 Connecting the FAX machine:

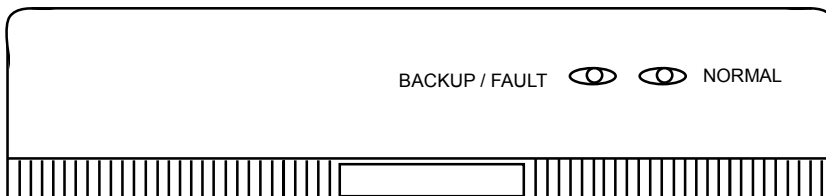
When you are connecting a FAX machine or modem with the UPS, please also connect the phone line through the UPS. The UPS may offer protection against damaging power fluctuations and surges that travel through the phone line.

The UPS also offers a ring on function for fax receiving when blackout occurs. UPS power will be turned on automatically when a ringing signal exists in the phone line, and the UPS will keep power on until the FAX machine finishes receiving work, then the UPS will be turned-off in 30 seconds by the green power function. In a long-time blackout situation, you won't miss any FAX data with this function.

On the other hand, if you need to send out a fax during a blackout, please simply pick up the phone receiver; then the UPS will wake up and keep power on until your fax sending work is finished.

5. INDICATION AND CONTROL

※ Front Panel



5.1 Operation status LED

There are two LEDs showing the UPS status; in the normal utility power duration, Green LED will show. While in the event of a utility outage, Red LED will flash. If the UPS is under fault operation, Red LED will show continuously.

5.2 Audible alarm

During a utility failure or fault operation, the UPS emits beep for warning. In back-up mode, the beeping will sound for urging user to leave computer without any data loss.

5.3 LED/Alarm Indication:

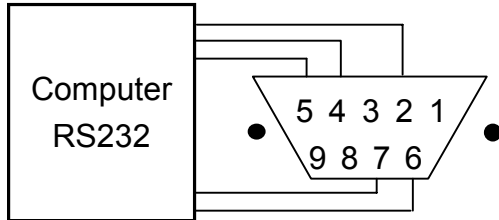
- * Green LED, no alarm _____ City power normal.
- * Red LED flashing, two beeps / 4 sec. _____ Backup mode.
- * Red LED flashing, quick beeping, 4 beeps / sec _____ Low battery.
- * Red LED lighting, continuous beep ----- Over load

(180W up ---- Alarm & auto shut down in 30 sec.)

(210W up ---- Auto shut down immediately)

- * Red LED flashing, one beep / 4 sec. _____ No load (auto shut down after 30 sec.)
- * Red + Green LEDs lighting, continuous beep _____ Dead battery warning.
- ※ If any abnormal condition occurs, and the UPS emit alarm continuously; please turn off your PC in normal procedure, then turn off the UPS and wait for 3 sec, and turn on the Switch to re-start the UPS.

6. COMPUTER INTERFACE PORT



Pin2 : AC Power Failure

Pin4 : Common GND of Pin2 & Pin5

Pin5 : UPS Battery Low

Pin6 : Turn off UPS

Pin7 : GND of Pin6

The computer interface port is diagramed above for your reference. Use Pin4 as the common of Pin2 and Pin5, Pin2 and Pin4 will become close loop from open when the utility is fail, Pin5 and Pin4 will become close loop from open when the battery level is low.

The UPS will shut down when the high level signal from RS-232, sustained for 3 seconds, is applied between Pin6 and Pin7.

7. TROUBLE SHOOTING:

Problem	Possible Causes	Action To Take
1. City power normal without any LED	AC fuse broke? Bad connection or disconnection of power cord.	Change fuse. Re-connect it.
2. Time of back up too short	Battery life is due? Blackout too often?	Change battery Be sure charging time
3. Both LEDs (RED & GRN) lighting with continuous beep	Dead battery	Change battery
4. Both LEDs (RED & GRN) lighting with continuous beep	Voltage of city power too high/low (<75% or >125% of rated voltage)	Turn off your P.C./fax, and wait city power back to normal
5. No any output when blackout happen	Dead battery Disconnection of battery leads? UPS out of order?	Change battery Re-connect it. Call for service.

8. SPECIFICATIONS:

MODEL	AS-375
Capacity (Computer Load)	375VA (210W)
Input Voltage	100V/110V/115V/220V/230V/240V \pm 25%
Frequency	50Hz/60Hz Auto-detect.
Output Voltage	100V/110V/220V/230V/240V \pm 5% for Back-up Mode < \pm 10% for AVR
Frequency	50Hz or 60Hz \pm 0.1Hz
Wave Form	Simulated Pseudo Sine Wave
Application of P.C. & Fax Machine	Auto operation for either or both of P.C. & fax machine in use.
Runtime of one set of P.C. (typical) (including 15"SVGA monitor)	11 minutes typical.
Runtime for fax	more than 80 pages of receiving fax (A4 size)
Transfer Time	4ms typical.
Battery	Lead-Acid, maintenance free
Voltage/Capacity	6V 4.5Ah X 2pcs
Recharge Time	Approx. 8 hrs to 90%
LED/Alarm Indication	
Normal/In Charge	GRN LED, No Beep.
Back up / Abnormal Input Voltage	RED LED Flashing, 2 Beeps / 4 sec.
Abnormal Input Frequency (Back up)	RED LED Flashing, 2 Beeps/ 4 sec.
Power Saving (When No Load)	RED LED Flashing, 1 Beep / 4 sec. (Auto off in 30 sec.)
Low Battery	RED LED Flashing, 4 Beeps / sec.
Over Load/Fault	RED LED Lighting, Continuous Beep.
Dead Battery Warning	RED & GRN LEDs Lighting, Continuous Beep.
Operation Temp	0-40°C
Operation Humidity	30-95% Non-Condensing
Dimensions (L*W*H)	27 x 29 x 6 (cm)
Shipping Dimensions (L*W*H)	44 x 39 x 39 (cm) / 2.3cft. (3pcs in 1 carton)
Weight (N.W./G.W.)	5.5/6.0 kgs

* Specifications subject to change without prior notice.

9. IMPORTANT SAFETY INSTRUCTIONS

- When replacing the batteries, use the same number and the same type of batteries.
- Do not dispose of batteries in a fire; the battery may explode.
- Do not open or mutilate the battery or batteries, released electrolyte is harmful to the skin and eyes.
- A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries.
 - * Remove watches, rings or other metal objects.
 - * Use tools with insulated handles.
- To prevent an overbalance of this unit, with the installation the additional stabilizer are to mount at the bottom side.
- This unit is to be installed by service personnel.
- The equipment can be operated by any individual with no previous experience.
- "The socket-outlet shall be installed near the equipment and easily accessible."
- "With the installation of this equipment it should be prevented, that the sum of the leakage current of the UPS an the connected consumer does not exceed 3.5mA."
- Attention, hazardous through electric shock. Also with disconnection of this unit from the main, hazardous voltage still may be accessible through supply from battery.
- The battery supply should be therefore disconnected in the plus and minus pole through the from the outer enclosure accessible battery fuses when maintenance or service work inside the UPS is considered.
- The lead acid battery may cause chemical hazard.
- The battery presents a risk of electric shock and energy hazard.
- Batteries are to be disposed by the manufacturer or importer. Customers need to send them back with no charge for disposal.
- Electrical hazard, the discharge time is about 5 min.

German wording:

- Wenn Sie die Batterien austauschen, verwenden Sie bitte die gleiche Anzahl und den gleichen Batterietyp.
- Werfen Sie niemals die Batterien in das Feuer, die Batterien könnten explodieren.
- Öffnen oder beschädigen Sie nicht die Batterien, ausfließendes Elektrolyt ist schädlich für Haut und Augen.
- Eine Batterie kann eine Gefahr eines elektrischer Schläges und sehr großer Kurzschlußströme beinhalten. Folgende Vorkehrungen sollten getroffen werden, wenn Sie mit der Batterie arbeiten.
 - * Entfernen Sie Uhren, Ring and andere metallische Objekte.
 - * Verwenden Sie Werkzeug mit isolierten Griffen.
- Um ein Umkippen dieses Gerätes zu verhindern, sind mit der Installation dieses Gerätes die zugätlichen Stützen an der Unterseite dieses Gerätes anzubringen.
- Dieses Gerät ist durch Elektrofachkräfte zu installieren.
- Bedienung durch jedermann ohne dem Vorkenntnisse.
- "Die Steckdose muß nahe dem Gerät angebracht und leicht zugänglich sein."
- "Bei der Installation dieses Gerätes ist darauf zu achten, daß die Summe der Ableitstrome der USV und der angeschlossenen Verbraucher den Maximalwert von 3.5mA nicht überschreiten."
- "Vorsicht, Gefahr durch elektrischen Schlag. Auch nach Trennung von der Netzeingangsspannung werde Teile innerhalb der USV von der Batterie gespeist und führen gefährliche Spannung.
- Bei Instandhaltungsarbeiten ist daher die Versorgung durch die Batterie an den von außen zugänglichen Sicherungshaltern in beiden Polen zu unterbrechen."
- Die Blei-Akkumulatoren Können bei unsachgemäßer Handhabung chemische Gefahren hervorrufen.
- Die Batterie birgt eine Gefahr eines elektrischen Schläges und sehr hoher Kurzschlußstroeme.
- Batterien werden durch den Hersteller oder Importeur entsorgt. Dazu muessen die Batterien kostenfrei angeliefert werden.
- Gegahr durch elektrischen Schlag, die Entladeit dieser Kondensatoren beträgt 5 min.