

UPGUARDS

Pro+ 500VA / Pro+ 700va / Pro+ 1000VA

USER'S MANUAL

Thank you for purchasing the UPS product. Please read the **USER'S MANUAL** before using the UPS.

Introduction

The UPS is an extremely reliable standby uninterruptible power system designed to keep computers and peripheral devices such as computer, storage subsystems, fax, modems, etc. performing from utility line failures which could result in damage of data. In the event of utility failure, the UPS supplies power to your equipment derived from a battery within the UPS and provides visual and audible indicators which alert you to utility line failures therefore the user has ample time to save file and close operations. Whenever the UPS is plugged in, the UPS maintains the battery in a charged condition and serves to protect your equipment from surges and noise brought from utility.

The main features include:

- ◆ Advanced equipment & data protection from blackouts, brownouts, sags, AC line noise and surges.
- ◆ Full analytical high performance micro processor control with true RMS synchronous calculation.
- ◆ Intelligent battery management for battery status, prevent over charge & deep discharge for longevity battery performance.
- ◆ DC start up capability, complete diagnostic indication and control.
- ◆ USB communication interface (optional).
- ◆ Automatic Voltage Regulation (AVR).
- ◆ Overload / Replace Battery / On Battery / On Line indication.
- ◆ Telephone RJ11 & Network RJ45 protection (optional).
- ◆ Advanced UPS Software Management (optional).
- ◆ Replaceable fuse protection for over current or short.

The UPS have been designed to operate with computer type loads only and are **NOT** designed to operate with inductive or other motor driven loads, such as, but not limited to vacuum cleaners, floor polishers and vending machines etc. Operation of the UPS with equipment other than that of a computer type load may void the warranty.

Installation & Safety Instructions

Receiving Inspection

Once you have received the UPS you should remove and inspect the unit for shipping damage. If damage is found, immediately notify the carrier and your dealer. The carton and foam materials in which the UPS was shipped to you were designed with great care to provide protection from transportation related damage. You should keep both the shipping carton and the packing foam in case the UPS must be returned to the factory for service. Damages sustained in transit, when shipped from the user, are not covered under warranty.

Important Safety Instructions


[Instructions Importantes Concernant La Securite]

Save these instructions. This manual contains important safety instructions for this product that should be followed during installation and maintenance of the UPS and batteries.

[Conserver ces intructions. Cette notice contiect des intructions importantes concernant la securite.]

All safety and operating instructions should be read before operating your UPS. These UPS units are intended for use in a temperature-controlled, indoor area free of conductive contaminants. Select a location, which will provide good air circulation for UPS at all times.

SAFETY INSTRUCTION

1. Place the UPS indoors in an area that has adequate airflow and is free excessive dust. Do NOT allow the UPS to be exposed to moisture, rain, excessive heat or direct sunlight. 
2. Use of the UPS product in life support applications where failure of this equipment can reasonably be expected to cause failure of life support equipment or to significantly affect its safety or effectiveness is **NOT** recommended.
3. Please always disconnect the input power cord from the wall outlet before replacing the battery.
4. Do **NOT** dispose of battery in a fire. The battery may explode.
5. Do **NOT** open or mutilate the battery. They contain an electrolyte that is toxic and harmful to the skin and eyes.

FOR THE FIRST TIME USE, YOUR UNIT SHOULD BE PLUGGED IN FOR **AT LEAST 8 HOURS** TO FULLY CHARGE THE BATTERY. (THE ON/OFF SWITCH DOES NOT HAVE TO BE ON.)

CAUTION: This UPS is intended for installation in a controlled environment.

CAUTION: There is a risk of electrical shock as the battery circuit is not isolated from the AC input. Hazardous voltage may exist between the battery terminal and ground. Therefore, you should always disconnect the input power cord from the wall receptacle before servicing/replacing the battery.

CAUTION: The RJ45 connector is to be used with LAN connections. Do not connect the RJ45 to a TNV circuit. Never install wires during an electrical storm.

CAUTION: A battery can present a risk of electrical shock and burn from high short-circuit current. Observe proper precautions.

[**ATTENTION:** Une batterie peut presenter un risqué de choc eletrique, de brulure par transfert d'energie. Suivre les precautions qui s'imposent.]

CAUTION: Servicing of batteries should be performed or supervised by personnel with knowledge of batteries and the required precautions. Keep unauthorized personnel away from batteries.

CAUTION: When replacing batteries use the same number and the type of batteries given in the Specifications section of this manual.

[**ATTENTION:** Pour le remplacement, utiliser le meme nombre de batteries du batteries du modele suivant.]

CAUTION: Do not dispose of batteries in a fire. The batteries may explode.

CAUTION: Do not open or mutilate batteries. They contain an electrolyte, which is toxic and harmful to the skin and eyes.

CAUTION: To avoid personal injury due to energy hazard, remove wrist watch and jewelry such as rings when replacing the batteries. Use tools with insulated handles.

CAUTION: Proper disposal of batteries is required. Please refer to your local laws/regulations regarding battery disposal.

CAUTION: Proper disposal of batteries is required. Refer to your local codes for disposal requirements.

[**ATTENTION:** L'elimination des batteries est reglementee. Consulter les codes locaux a cet effet.]

Achtung!

ACHTUNG Gefahr elektrischen Schlages. Dieses Gerät enthält eine Batterie-Energiequelle. Es ist möglich, daß die Stromausgänge unter Spannung stehen, selbst wenn das UPS nicht an das Netz (Wechselstrom) angeschlossen ist.

GEFAHR Gefahr elektrischen Schlages. Das UPS enthält lebensgefährliche Spannungen. Enthält keine vom Benutzer reparierbaren Teile. Bitte nicht die Abdeckung entfernen. Alle Reparaturen sollten von ausgebildetem Kundendienstpersonal durchgeführt werden. BEACHTEN SIE: Alle Teile im Inneren des Gerätes stehen unter Strom, selbst wenn der Schalter auf der Vorderseite in der 'AUS'-Position ist.

BEACHTEN SIE Gerät ist zur Benutzung in einer geschützten Umgebung bestimmt. Wasser oder übermäßige Feuchtigkeit vermeiden. Eindringen von Gegenständen oder Wasser ins Gerät vermeiden. Nicht in der Nähe von Badewannen, Waschbecken, Schwimmbecken oder ähnlichem verwenden. Um die Gefahr des überhitzens zu verringern, nicht in praller Sonne oder in der Nähe wärmeausstrahlender Geräte aufstellen.

WARNUNG Keine Anpassungsstecker verwenden, um das Wechselstromkabel mit ungeerdeten zweipoligen Steckdosen zu verwenden. Dies würde den Stoß-Stromschutz und den EMI/RFI Filter ausschalten. Ungeerdeter Betrieb kann Schockgefahr bedeuten.

Installation

The UPS are simple to operate and install. Following is the step of installation before the equipment connects to the UPS.

1. Conditions

Do not operate the UPS in an environment where the ambient temperature exceeds the limits stated in the specifications of this manual.

2. Connection To The Utility Power

Plug UPS into an electronic outlet. Do not plug it into an outlet that uses a heavy electronic load. (e.g. an air conditioner or refrigerator or laser printer, etc.) Check the product specification in this manual for temperature conditions.

a. 240/230/220 Vac Version

The 240/230/220 Vac version UPS is furnished with one output power cords for connection to computer equipment having "IEC 320" male appliance couplers at their input. In most cases this will not be a problem as the input cord which currently powers your computer equipment may be swapped with one of the supplied output cords. Hence, the swapped output line cord can be used instead as the input line cord for the UPS.

If an extension cord must be used, use a 3 wire grounding type rated at least 8 Amp.

3. Initial Battery Charging

The UPS is shipped from the factory with its internal battery fully charged. However, the battery will lose some charge during shipping and storage. The battery should be recharged before conducting the following Test, to ensure proper operation and expected run time. The battery is automatically charged by the UPS whenever the UPS is plugged in (the power I/O switch does not have to be on). You can be sure that the battery is fully recharged if the UPS is left plugged in for **at least 8 hours**.

4. Connecting Your Equipment To The UPS

To ensure that your computer equipment will be protected during a utility failure and that you receive expected run time, it is important that you determine the total power needs of the equipment you wish to protect with the UPS. The power requirements of your equipment should be **less than or equal** to the capacity of the UPS. The UPS will emit a loud tone and the yellow LED will illuminate to alert you of the overload. Consult your dealer for the power requirement of your equipment.

Once you have determined that your equipment and the UPS are compatible, plug your equipment into the UPS's real panel output receptacles.

5. Test For Proper Operation

Turn on the UPS's On/Off/Test switch and switch on your computer equipment. The green **Normal** indicator at the front panel should be illuminated and your equipment should operate normally.

To test the operation of the UPS, simply unplug its input cord to simulate a utility blackout. The UPS will immediately transfer your equipment to work on DC mode with power derived from the UPS's internal battery. During this time, the UPS will emit 2 beeps once every 10 five seconds to remind you your equipment is operating from a source of power that is limited in duration. Restore power to the UPS by plugging in the line cord. Repeat this test four or five times to ensure proper operation.

Another way to test the operation of the UPS, simply press and hold the ON/OFF/TEST button for 2 sec or more then release it to monitor a self-test cycle. The UPS will immediately transfer your equipment loads to work on DC mode with power derived from the UPS's internal battery. See the following section if abnormal operation is encountered.

6. Overloads & Output Shorts

If the total power requirement of your equipment is much greater than the capacity of the UPS, the UPS will attempt to operate the load using its internal power source and emit a loud tone before the UPS shuts down and ceases to power your equipment. The yellow led will illuminate and stay on to alert you of the overload till the UPS start up again. In this case, **turn off the UPS** and decide which equipment will be left unprotected by the UPS. Make sure the total power requirement of all connected equipment should be equal or less than the capacity of the UPS. Under this condition, you can start up the UPS again.

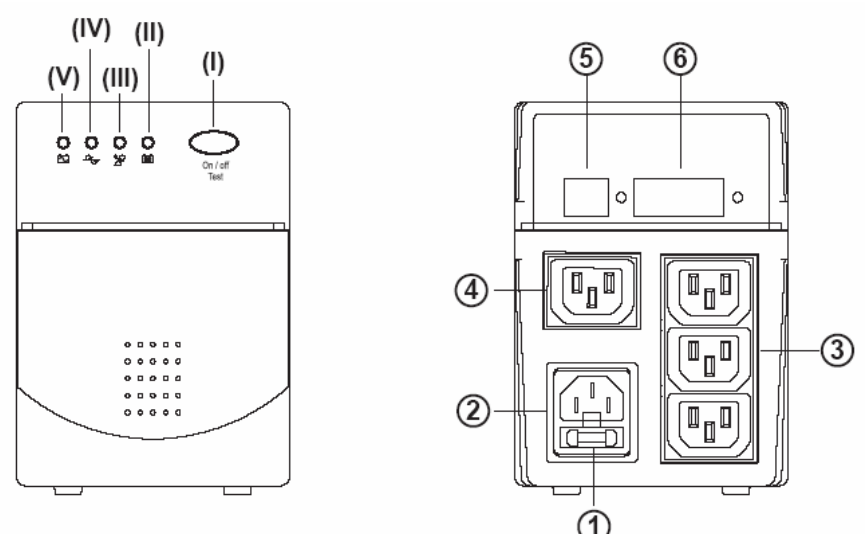
7. Connect Telephone/Network Surge Suppression

Connect a 10Base-T network cable into the network surge protection sockets on the front of the UPS. The RJ-45 modular combination sockets accept all standard 10Base-T connections. The cable coming from the network system should be connected to the port marked "IN." The "OUT" port should be connected to the equipment to be protected.

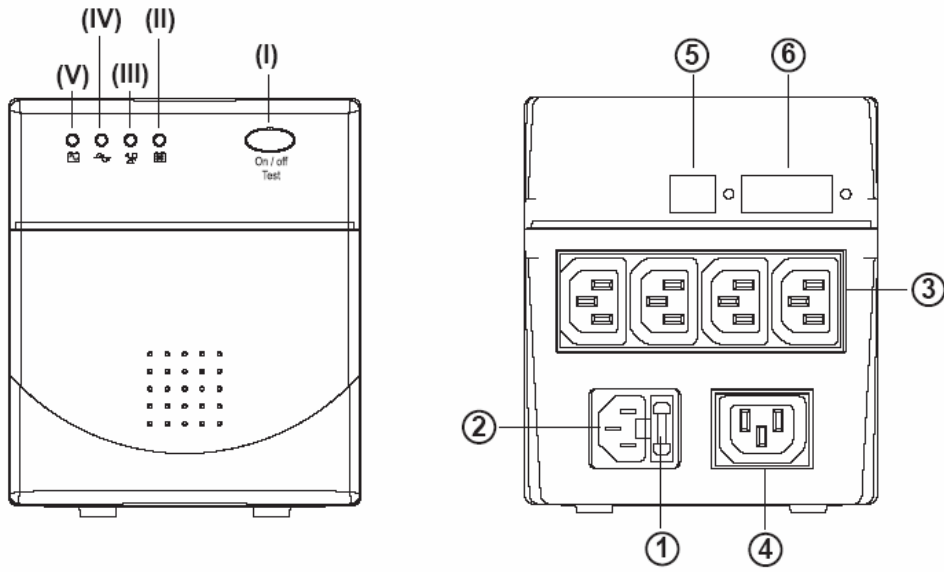
Note: This connection is optional and not needed to use the UPS

Controls & Indicators

500, 700VA Panel Diagram



1000VA Panel Diagram



LED & Alarm Indicator

UPS	Replace Battery LED - RED (II)	Overload LED - Yellow (III)	On-Line LED - Green (IV)	On-Battery LED - Green (V)	Alarm	UPS Status Indication
On	On	X	X	X	X	Bad Battery
On	X	On	X	X	Constant on	Overload
On	X	X	On	X	X	AC mode
On	X	X	X	On	2 beeps @ 10 seconds	DC mode
On	On	X	X	On	2 beeps @ 1 second	Low Battery

(I) ON/OFF/TEST

This button controls power to the UPS and its output receptacles. You're suggested to press and hold on the button for at least 2 sec or more to switch on the UPS. Press the button, the UPS will power on its output after releasing the button. The UPS will ignore any switch on contact that contact time is less than 0.2 sec. **Power on the UPS!** In case of a utility power outage, you can still switch on the UPS itself and its output receptacles even on full load condition. **DC starts up feature!** Press and hold the button for at least 2 sec or more, the UPS will simulate the utility outage and perform self-test function. It means the UPS will transfer the load to the internal battery power to perform the diagnostic self test at least for 5 sec then return the load to the AC utility. It provides a convenient means of testing the UPS battery. **Self test feature!**

(II) Replace Battery LED

On AC mode, when the battery goes bad, this LED will blink and indicating the battery is no use and must be replaced.
On DC mode, when the UPS detect battery low, this LED will stay on.

(III) Overload LED

During 110%-120% overload operation, the overload LED stays on indicating an overload has occurred, and the UPS will constant alarm and shut off within 10 sec. During the power requirement of connect equipment excess 120% overload, the UPS will emit a loud tone and shut off at once.. See the installation section 6 to recover the UPS from overload operation.

(IV) On Line LED

When operating normally, this indicator will always stay on. When the automatic voltage regulator is in operation, this LED will blink.

(V) On Battery LED

In on-battery operation, the on-battery LED illuminates and the UPS will sound 2 beeps once every 10sec. The UPS will emit a steady tone when the battery reserve runs low until AC returns or the UPS shuts down from battery exhaustion.

(1) Replaceable Fuse Protection

The UPS will trip the fuse when UPS detect over-current or short, User can replace a new fuse at same specifications. This replaceable fuse is placed beside the input Socket of the UPS.

(2) AC Input Socket

One standard IEC 320 male socket. Use an input line cord to connect UPS to the utility.

(3) Battery Backup & Surge Protection outlets

Standard reverse female IEC for 220V series. Use an output line cord to connect your equipment to the UPS. See the section of specifications for the numbers of sockets. The outlets not only provide full time surge protection but also provide emergency battery backup power during the utility power failure such as a blackout or brownout.

(4) Surge Protection outlets

The three outlets provide full time protection from surge and spike. Plug your peripheral equipments that do not require power during the utility power failure. Such as printers, scanners, fax machines, or speakers.

(5) USB Communication Port (Optional)

The UPS USB port is the means by which your UPS communicate with a computer system. Check your dealer for various UPS monitoring software available.

Note: This connection is optional and not needed to use the UPS. The UPS works properly without a connection.

(6) Telephone/Network Surge Suppression (Optional)

Connect a single line telephone or a 10 Base-T network cable into the telephone/network surge protection sockets on the back of the UPS. The RJ45/11 modular combination sockets accept all standard single line telephone and 10 Base-T connections. The cable of the telephone service or network system is connected to the port marked "IN", the "OUT" port is connected to the equipment to be protected.

Note: This connection is optional and not needed to use the UPS. The UPS works properly without a connection.

Battery Installation/Replacement Procedure

Battery replacement is a safe procedure, isolated from electrical hazards. You may leave the UPS and loads on the following procedure.

- Turn off the UPS before installing or replacing battery.
- Use a screwdriver or a coin to remove all screw in the bottom case. Please note there is a screw in placed under the QA/PASS label (this screw can't be found by the user unless open the QA/PASS label) in the bottom case.
- Disconnect the battery leads and grasp the battery out of the UPS.
- Put the new battery into the UPS and connect the battery leads to the new battery.
 Note: Small sparks at the battery connectors are normal during battery connection.
- Cover the upper case, replace the compartments screws.

- Dispose of the old battery properly at an appropriate recycling facility.

Troubleshooting

Problem	Possible Cause	Action To Take
UPS will not turn on or off.	1.On/Off/Test button not pushed. 2.Output short or overload shutdown. 3.Battery is too low.	1.Prss again. 2.Reduce the load and replace the fuse which is located beside the input socket. Please mention the new fuse should be the same rating as the replaced one. 3.Recharge the battery.
All indicators are illuminate and the UPS emits a constant tone.	Internal UPS system fault.	Return for service.
UPS beeps and UPS operate on-battery even though normal line voltage exists.	1.Sags or spike is found, UPS is briefly transferring your equipment to its alternate power source due to utility outage, sags or spikes 2.Input circuit breaker is tripped. 3.The UPS has a bad input connection.	1.This operation is normal. The UPS is protection your computer equipment from abnormal utility voltages. 2.Reduce the load and reset the breaker. 3.Check the connection.
UPS does not have expected run time. Low battery warning or UPS transfer power to battery but immediately back to AC.	1.Low battery condition. 2.Bad battery.	1.Remove all connected equipment and recharge the battery fro about 8 hours. 2.Return for service.
All indicators are off but the batt. Bad is blinking. No alarm and the UPS is not operating.	The UPS is shut down and the battery is discharged from an extended power outage.	None. The UPS will return normal operation when the power is restored and the battery has a sufficient charge.

Specification

Specification	Pro+ 500	Pro+ 700	Pro+ 1000
Capacity Rating	500VA/300W	700VA/420W	1000VA/600W
Nominal Input Voltage	220V		
Input Voltage Range	165VAC~264VAC		
AVR Range	187VAC~242VAC		
Output Voltage Range	220V +/- 5%		
Nominal Input Voltage	230V		
Input Voltage Range	172VAC~276VAC		
AVR Range	195VAC~253VAC		
Output Voltage Range	230V +/- 5%		
Nominal Input Voltage	240V		
Input Voltage Range	180VAC~288VAC		
AVR Range	204VAC~264VAC		
Output Voltage Range	240V +/- 5%		
Input Frequency	50/60 Auto Sensing +/-5HZ		
Output Frequency	50/60HZ +/-1HZ		
Battery Capacity	12V/7AH*1	12V/7AH*1	12V/5AH * 2
Battery Type	sealed and leak proof maintenance free lead-acid		
Battery Protection	Automatic self-test, discharge protection and battery replace indicator		
Back Up Time	8-15 min typical	8-15 min typical	5-10 min typical
Charge Time	8 Hours typical, 12 Hours max		
On Line LED (Green)	On: Normal AC Input Off: Out of Normal AC Input		
Overload LED (Yellow)	On: UPS is overloaded		
Replace Battery (Red)	On: The battery maybe fault		
On Battery (Green)	On: UPS is on backup mode		
Transfer Time	4~10 ms typical		
Communication Port	USB Communication Port (Optional)		
Over load Protection	110% warning and UPS shut off after 10seconds,120% turn off at once		
RJ 11/45 Protection	RJ-11 Telephone Cable and RJ-45 Network Cable Surge Suppression (Optional)		
DC Start	Yes		
Auto Start	Yes (UPS will transfer from DC mode to AC mode auto once AC return to normal mode)		
Operating Temperature	0-40		
Storage Temperature	-20-60		
Dimension of UPS	L320 * W97 * H140 (mm)	L320 * W97 * H140 (mm)	L398 * W122 * H145 (mm)
Weight	5.6kg/6kg	6.5kg/7kg	8.9kg/9.6kg
Agency Approval	CE		

* Specification change without notice.

Service and Support

If you have any question or problem with the USP, call your Local Distributor. Please have the following information ready when you call the Distributor.

- Model number
- Serial number
- Data of failure or problem
- Symptoms of failure or problem
- Customer returns address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) number. This number must appear on the outside of the package and on the Bill of Landing (if applicable). Use the original package or request package from the Distributor. Units damaged in shipment as a result of improper package are not covered under warranty. A replacement or repair unit will be shipped freight prepaid for all warranted units.