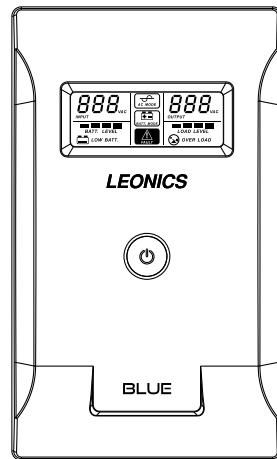


USER'S GUIDE

LEONICS®



BLUE-800

MICROPROCESSOR CONTROL AND
LINE INTERACTIVE UPS WITH STABILIZER

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SAFETY INSTRUCTIONS

Please read carefully and follow this user's guide carefully and completely.

Important: Please keep this user's guide for reference in order to use the UPS properly and safety. This user's guide consists of safety instructions, introduction, front and rear panel, installation, operation and troubleshooting.

For product safety, please check this product annually by our service qualified personnel or if there are any symptom of problems which are not mentioned in this guide or any queries, please contact your LEONICS distributors, LEONICS service center, send e-mail to marketing@lpsups.com or visit our website at www.leonics.com

For your convenience and quick reference for our service, please fill the requested informations in the blanks below:

UPS Model: _____
Serial Number: _____
Purchased Date: _____
Purchased From: _____

1.1 Warning, Caution and Note

To reduce risk of electrical shock hazards, and to make sure the inverter is safety installed, special symbols of Warning, Caution and Note are used in this guide to highlight potential safety hazards and important safety information as follow:

Warning: Indicates a potentially hazardous situation or safety information important for human safety. Violation of warnings may result in death or serious injury and damage to the unit or other equipment.

Caution: Indicates a potentially hazardous situation or the information important for the protection of property. Violation of caution may result in minor or moderate injury and damage to the unit or other equipment.

Note: Indicates useful additional information that helps you make better use of product and system.

1.2 Electrical Safety

Warning: Risk of electric shock, **DO NOT** remove cover. No user serviceable parts inside, please refer servicing to qualified service personnel.

Warning: **DO NOT** work alone where there are electrically hazardous conditions.

Warning: Contact with live conductors will cause burns and dangerous electric shock. **DO NOT** touch any terminal or internal parts of the unit while the unit is operating.

- Only qualified electricians allow to install and wiring this unit and system.
- Periodically check your cable, outlets, terminal blocks and power source to make sure that they are in good condition.
- To reduce risk from electric shock, if you cannot find the electrical ground (⊕) of the building, unplug UPS from AC power source before connect loads to the UPS. Then, plug in the UPS to AC power source.
- Use **ONLY** one hand when plugging or unplugging the loads in order to avoid electric shock from touching two surfaces with different potential.
- It is recommended to connect the UPS to a three wires AC power source (two live wires and an electrical ground) which connects to a protected circuit such as employs a fuse or circuit breaker.

1.3 Safety instruction for installation and operation

Caution: Before installing or using this unit, read all instructions and caution markings on the UPS and all connected loads, and all sections of this user guide.

Caution: Install this unit in a temperature and humidity controlled area with adequate air flow and away from chemical particles or flammable substances. Avoid installing the unit near radio transmission station, heat dissipation equipment and direct sunlight.

Caution: For AC power source connection, it is recommended to connect with a properly grounded power source which connects to a protected circuit such as employs a fuse or circuit breaker according to the electricity authority's standards. The AC power source connection point must be a proper location and easily accessible.

Caution: **DO NOT** connect the AC input cable into the AC output terminal. This may cause the unit damaged.

Caution: **DO NOT** block the ventilation grills and **DO NOT** put any objects on the top of the unit. Ensure that sufficient ventilation is provided.

Caution: This UPS is not intended for use with life rescue equipment! A failure of the UPS might cause the life rescue equipment to fail and endanger human lives.

Caution: Periodically check your cable, terminal and power source to make sure that they are in good condition.

- The distance of minimum 30 cm. between the wall and the unit is necessary for adequate ventilation and easy access for installation, operation and maintenance.
- Use insulated tools to reduce your risk of electric shock.
- Remove all jewelry or other metal objects such as rings, necklace, bracelets and watches when installing this product.
- Verify correct terminal block connections to prevent the damage occurs.

- Before connecting the communication interface signal cable, turn off the UPS and disconnect the UPS from AC power source.
- **DO NOT** clean the UPS with benzene, thinner or any solvent, use only soft cloth to clean the UPS after it has been turned off.
- Turn on the UPS before turn on all connected loads to prevent surge damage.
- During a heavy rain storm, avoid using electrical appliances including the UPS to prevent damage from lightning strike.

1.4 Battery Safety

- ⚠ **Warning:** Even the UPS is disconnected from AC power source, the UPS OUTPUT outlets may have hazardous voltage because of battery may continue supply power.
- ⚠ **Warning:** **DO NOT** dispose of battery in a fire. They may be exploded.
- ⚠ **Caution:** **DO NOT** disassemble battery. They contains poisonous electrolyte which is harmful to your skin and eyes.
- ⚠ **Caution:** For battery replacement, replace battery with the same type and rating as originally installed battery.
- ⚠ **Caution:** The UPS contains sealed lead acid battery and must be recycled properly. For recycling, please return it to your local distributor or service center or contact your local recycling center for proper disposal information.
- ⚠ **Caution:** When the UPS has not been used for a long period of time or UPS is stored for an extended period of time, battery should be fully recharged every three months by plugging the UPS with the AC power source. Then, turn on the UPS and let the UPS charge battery for 6 hours.

- When replacing a battery, use tools with insulated handles and remove any watch, rings or other metal objects that you wear in order to avoid electric shock.

INTRODUCTION

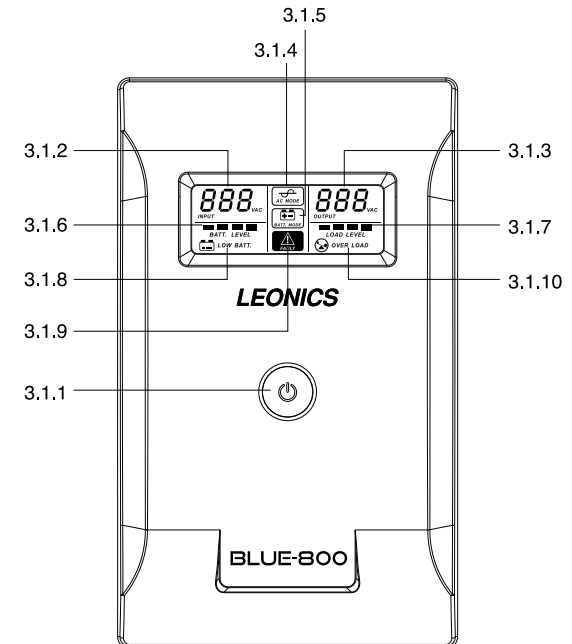
2.1 General

BLUE series is an uninterruptible power supply for office automation equipment (computers and peripherals such as monitors, modem, printers, fax machines, etc). Its major function is to eliminate any power problems such as a blackout, brown out, sag, surge, spike, etc. that might cause malfunctions of the connected loads. It also provide automatic voltage regulator (AVR), surge suppressor and backup power system.

The BLUE series UPS can be started when there is no utility power to supply power the connected loads in an emergency. It display the electrical status and operating status on LCD display and on computer's monitor via UPS monitoring software.

FRONT AND REAR PANEL

3.1 Front panel
















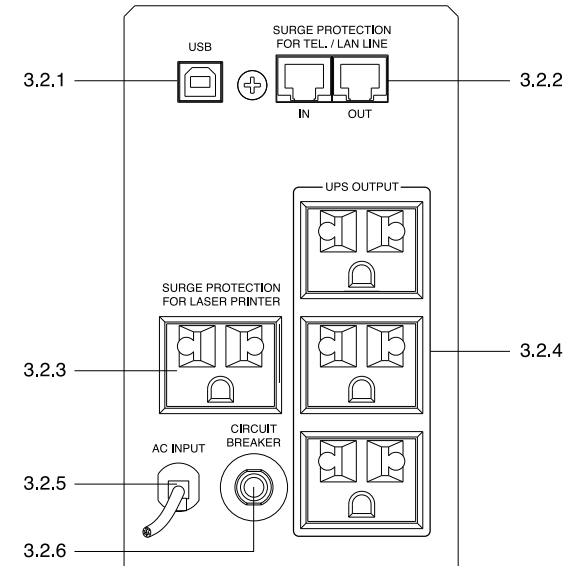
- 3.1.1  button: The button to turn on and turn off the UPS.
- 3.1.2  : Indicates input voltage.
- 3.1.3  : Indicates output voltage.
- 3.1.4  : Indicates the UPS is operating in AC mode.
- 3.1.5  : Indicates the UPS is operating in battery mode.
- 3.1.6  : Each bar represent 25% of battery backup power starting from the left to right.
- 3.1.7  : Each bar represent 25% of full load capacity starting from the left to right.
- 3.1.8  : Indicates low battery status.
- 3.1.9  : Indicates fault status.
- 3.1.10  : Indicates UPS is overloaded.

Table shows symbol on LCD and UPS status

Symbol on LCD	Alarm sound	UPS status
Show 	-	UPS is operating normally.
<i>OVERLOAD</i> blinks	Alarm beep sound every 0.5 seconds	UPS is overloaded.
Show 	Alarm beep sound every 10 seconds	Blackout or power failure. UPS is supplying backup power from battery.
<i>LOW BATT</i> blinks	Alarm beep sound every 1 seconds	Battery backup power is running out.
Show 	Alarm long beep sound	UPS malfunction.

3.2 Rear panel



- 3.2.1 USB port: The communication port for connecting the UPS to computer and display data on Easy-Mon V software.
- 3.2.2 SURGE PROTECTION FOR TELEPHONE LINE/LAN LINE: The ports to plug in telephone or LAN jacks before fax machine, modem, telephone or computer in order to protect them from signal surge.
- 3.2.3 SURGE PROTECTION OUTPUT FOR LASER PRINTER: The socket which connects to surge protection circuit for laser printer. (This socket does not supply backup power when power fails)
- 3.2.4 UPS OUTPUT: The sockets which are connected to the UPS backup power system for connecting to electrical appliances such as computer, monitor, modem, printer, fax machine, etc.
- 3.2.5 AC INPUT power cord: The input power cord to connect to utility line.
- 3.2.6 Circuit Breaker: The resettable circuit breaker for protects against damage due to overload or short circuit.

INSTALLATION

⚠ Caution: The warranty will be voided, if this product has been improper installation, not following the installation instruction that mentioned in this user's guide.

4.1 Preparation

- 4.1.1 Before you install the UPS, give it a through visual examination to ensure it has not been subjected to shipping damage. If it is not in perfect condition, please contact your local distributor or service center or e-mail to marketing@lpsups.com.
- 4.1.2 Before installing or using this unit, read all instructions and caution markings on the UPS and all connected loads, and all sections of this user guide.
- 4.1.3 Check the rating of your AC power source and all connected loads to suit with the UPS rating
- 4.1.4 Transportation
Transport the UPS with its packaging until it arrive the installation location to avoid shipping damages.
- 4.1.5 Location
Install the UPS at least 30 cm free space from wall for adequate ventilation and easy access for installation, operation and maintenance.

4.2 Installation

- 4.2.1 Connect a USB signal cable from computer to the USB port of the UPS for monitoring the operating status via Easy-Mon V software.



⚠ Caution: Before connecting the signal cable, turn off the POWER switch and disconnect the AC INPUT power cord from the wall outlet.

- 4.2.2 Connect the telephone cable plug or LAN cable plug into the SURGE PROTECTION FOR TEL./ LAN LINE socket at the rear panel of the UPS.
IN : Connect telephone or LAN line to the UPS
OUT : Connect telephone line or LAN line from the UPS to the input socket of the telephone, fax machine, modem or LAN card.

⚡ Note: To achieve maximum performance of surge protection, UPS must be connected to grounded electrical system to work properly. Connecting to non-grounded electrical system, it will not be able to properly protect your electrical equipment from transient voltage surge suppression.
- 4.2.3 Plug in the computer and peripherals to the UPS OUTPUT outlets at the rear side of the UPS.
- 4.2.4 Plug in the laser printer to the SURGE PROTECTION FOR LASER PRINTER outlet which is connected to surge protection system. (This socket does not supply backup power when power fails).
- 4.2.5 Plug in the AC INPUT power cord to the wall outlet. The LCD screen is lit and shows the input voltage and battery level.

OPERATION

5.1 Turn on and turn off the UPS



- 5.1.1 Turn on the UPS by pressing the  button at the front panel. The LCD screen is lit and shows the input voltage, output voltage, AC mode status and battery level. Wait for alarm stop beeping then turn on all connected loads.
- 5.1.2 For turning off the UPS, the computer and peripherals must be turned off before pressing the  button of the UPS.

5.2 Software Installation

After turn on the UPS and computer, insert the software CD into the CD-ROM drive of the computer. Then, the computer monitor shows the UPSilon program. Choose the "View Manual" to read the user manual before installation. After that select the "Install Program".

5.3 Testing Operation

After battery is fully charged for at least 6 hours, you can test operation by turning on the UPS follow the item 5.1.1. Then, test UPS operation by unplugging the AC INPUT power cord from the wall outlet to simulate a blackout event, UPS will automatically supply battery backup power.

The LCD shows  with alarm beep sound every 10 seconds. That means UPS supplies backup power to computer and peripherals. Then, plug the AC INPUT power cord into the wall outlet as before, the alarm will stop sounding and LCD shows  and computer and peripherals are still operating both in blacktou and normal situation.

5.4 Storage

Before store the UPS for a long period of time, be sure that the battery is fully charged by turning on the UPS for 6 hours. Then, turn off the UPS and unplug the UPS power cord. Store the UPS in dry and cool place. Battery should be fully recharged every three months to preserve the condition of the internal battery.

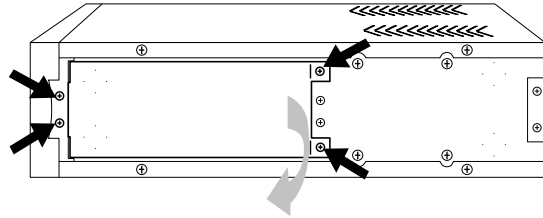
If the UPS have to store in above 25°C and 80°F area, it need to be recharged every 2 months.

5.5 Battery Replacement

Typically battery life is 3-6 years at operating temperature below 25°C and 2-3 years at below 35°C, depending on operating condition. After that battery will deteriorate and finally it can not store energy. It need to replace new battery every 2-3 years by qualified technician only. Please return the UPS to your local distributor or service center or follow these instruction carefully.

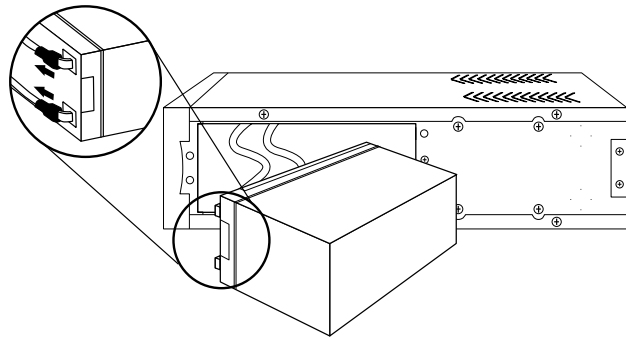
⚠ Caution: The battery may be replaced without having to turn off the UPS due to the hot swappable battery feature. For your safety, we recommend to turn off all connected loads and UPS before battery replacement.

5.5.1 Lay down the UPS on the flat surface and unscrew 4 fasteners from the battery cover plate as shown in below figure. Then, remove the battery cover plate.



5.5.2 Tilt the UPS and gently pull the battery out of the UPS. Then, disconnect black and red wires from the battery terminal respectively.

⚠ Caution: While disconnecting the battery wires, beware the battery wires end are not touching each other to prevent the UPS damage.




5.5.3 Replace new battery by reconnect the black (-) and red (+) wire to the battery terminals respectively.

⚠ Caution: Replace battery with the same number and type as originally installed battery.

5.5.4 Replace and screw the battery cover in place and continue using the UPS normally.

TROUBLESHOOTING

Symptoms	Possible causes	Solutions
Blackout occurred, but UPS does not supply backup power.	Battery power is running out.	Once the utility line turns back to normal, turn on the UPS at least 6 hours to recharge battery.
	Battery is deteriorating.	Turn on the UPS for at least 6 hours to recharge its battery, then test. If the symptom persists, it needs to be replaced. Please contact service personnel.
Utility line is normal, but the LCD shows <i>OVERLOAD</i> blinks with alarm beep sound every 0.5 seconds	UPS is overloaded.	Reduce loads to 75-89% to keep the remaining power for instantaneous power consumption of some loads.
Utility line is normal, but UPS is supplying backup power and the LCD shows 	There is no power supply to AC input power cord or the AC INPUT power cord is not properly plugged in to the wall outlet.	Verify the wall outlet and properly plug in the AC INPUT power cord.

SPECIFICATIONS

MODEL		BLUE-800
CAPACITY		800 VA / 400 W
SYSTEM	UPS system	Line interactive UPS with stabilizer
	Control system	Microprocessor control
	Stabilizer function	Buck / Boost
LOAD APPLICATION	The number of PC*	2 set + printer**
INPUT	Input voltage	220 Vac ± 25%
	Frequency	50 Hz ± 10% (60 Hz ± 10%) auto sensing
OUTPUT	Voltage battery mode	220 Vac ± 5%
	Voltage AC mode	220 Vac ± 10%
BATTERY	Type	Sealed lead acid (maintenance free)
	Capacity	1 x 12V 7.2 Ah
	Backup time	15 - 40 min (depending on connected load)
	Continuous recharging time	6 - 8 hours (90% after full discharged)
PROTECTION	Over voltage	Mains to UPS backup 220 Vac + 25%
	Under voltage	Mains to UPS backup 220 Vac - 25%
	Transfer time	2 - 6 msec typical, 10 msec maximum
	Overload (AC/DC mode)	yes
	Output short circuit	yes
	Surge energy dissipation	125 Joules / 2 msec x 3
	Power dissipation	1,000,000 W within 100 microsec
	Acoustic noise	less than 40 dBA at 1 metre
OUTPUT OUTLET	Number of backup outlet	3
	Number of surge protection outlet (not backup)	1
FEATURE	AC/DC start	yes
	Communication interface	USB port
	Monitoring and management software	yes
	Surge protection for telephone and LAN line	yes
	Surge protection for laser printer	yes
	Auto restart function	yes
	Off mode charging	yes
	Hot swappable battery	yes
INDICATOR	LCD	AC mode, Battery mode, Load level, Battery level, Input voltage, Output voltage, Low battery, Overload, Fault
AUDIBLE ALARM	Battery mode	audible beep every 10 seconds
	Low battery	audible beep every second
	Overload	audible beep every 0.5 seconds
	Fault	continuous beep
ENVIRONMENT	Temperature	0 - 40°C
	Relative humidity	0 - 90% (non-condensing)
CONFORMANCE	Design regulation	EMC category C2
DIMENSION	W x H x D (mm.)	95 x 160 x 330
WEIGHT	Approximate in kg.	6.35

*Personal computer with 17" LED monitor, **Bubble jet or Dot matrix printer.

Continuous product development is our commitment. In that manner, the above specification may be changed without prior notice.

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