

In case of any queries or problems that you could not solve using this guide, please contact your dealer, LEONICS Service center, LEONICS local distributor or e-mail your queries to support@leonics.com or visit www.leonics.com

Authorized Distributor



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LEONICS CO.,LTD. A5043 ISO 9001



ISO 14001
EMAS 01007045

GREEN

MICROPROCESSOR CONTROL UPS
LINE INTERACTIVE UPS WITH STABILIZER

GREEN

SAFETY INSTRUCTIONS

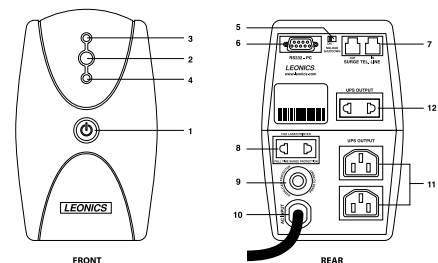
1. This UPS is designed to be installed indoors in a dry, controlled temperature range of 0-45°C. Do not place near objects that generate heat, moisture or inflammable. Please keep away from hazardous and explosive material.
2. Although the UPS is not connected to any power source, its outlets may be energized because it has a battery inside.
3. The UPS has hazardous voltages inside, do not disassemble any parts of the UPS. Users are not allowed to repair, recondition or disassemble the UPS. This must be done by LEONICS qualified technicians only.
4. This GREEN 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.

INTRODUCTION

GREEN is a compact, light weight and attractively designed uninterruptible power supply for office automation equipment including computers and peripherals such as a computer, monitor, modem, printer or fax machine. The major function of the GREEN is to eliminate work interruptions due to power failures. Microprocessor controlled, the GREEN will respond instantaneously to keep power flowing to equipment. In addition, it also has added special protection features including Automatic Voltage Regulation (AVR) or Stabilizer, Surge suppression and battery backup.

GREEN can be started even when there is no power source making it convenient for you to have spare power when the source fails or in an emergency. It also can communicate with a computer through Easy-Mon Monitoring and Management Software sold separately by LEONICS local distributors. Easy-Mon shows the status of the AC source and the UPS direct from the monitor of the computer connected to the UPS or from any other computer in the same network.

FRONT AND REAR PANEL



1. **POWER button** : The button to turn on and off the UPS.
2. **TEST button**: The button for testing the UPS and battery, verifying the testing as shown in table 1.
3. **LINE indicator** : The green indicator light show the UPS status in normal mode.
4. **ALARM indicator** : The red indicator light show UPS status in backup mode or abnormal condition with alarm sound as follows in table 1.

LINE	ALARM	LIGHT CONDITIONS	ALARMS	UPS STATUS
When startup				
GREEN	-	Lit	-	Normal
GREEN	-	Blink	-	UPS shutdown due to command from the computer (option)
-	RED	On for 1 second	Beep every 3 second Off for 3 second	Blackout or abnormal power mode, UPS supplies battery backup.
-	RED	On for 0.5 second	Beep every 0.5 second Off for 0.5 second	Battery backup is low.
-	RED	Lit	Long beep	- There is output short circuit. - UPS is overloaded. (option)
After press TEST button				
-	RED	Lit with alarm sound	Short beep	Battery normal
-	RED	Lit with alarm sound 1 times	Short beep more than 1 times	Battery backup in short time.
-	RED	Lit with alarm sound (Low battery)	Long beep 1 times	Battery has very low capacity.

Table 1

5. **NO LOAD SHUTDOWN switch** : Switch for setting the UPS shutdown when there is blackout and the total power consumption of loads are less than 60 watt.
6. **RS-232-PC port** :The communication port for connecting the UPS to computer. The signal from UPS will send information to computer through this port and RS-232 cable and display data through the Easy-Mon X monitoring software. (Free download software at www.leonics.com)
7. **SURGE PROTECTION FOR TELEPHONE LINE/LAN LINE** : A port for fax / modem line surge protection. Its function is to protect load against voltage spikes coming from the telephone or LAN line (optional).
8. **FULL TIME SURGE PROTECTION OUTPUT FOR LASER PRINTER** : A output outlet for connecting to laser printer which provide surge protection only. (this output does not supply backup power when a blackout occurs).
9. **CIRCUIT BREAKER** :The resetable circuit breaker protects against damage due to overload or short circuit.
10. **AC INPUT** :Power cord for connecting to wall outlet.
11. **UPS OUTPUT** :Output outlets for connecting to a computer or peripherals such as a monitor, modem, printer or fax machine.
12. **ADDITIONAL UPS OUTPUT** :Output outlet for connecting to additional peripherals. (optional)

INSTALLATION AND OPERATION

1. Connect RS-232 cable from computer serial communication port to the UPS "RS 232-PC " port.

Caution : Switch OFF and unplug the UPS from AC sources before installing a computer RS-232 interface.

2. Connect telephone line or LAN cable (optional) into the Surge Protection sockets.
 - IN - The socket to connect input telephone line (LAN cable (optional)).
 - OUT - The socket to connect telephone line (LAN cable (optional)) which are protected to facsimile machine, modem, LAN card.
- Note** : To achieve the maximum performance of surge protection, the UPS must be connected to a grounded electrical outlet to work properly. Connecting to non-grounded electrical outlet, the surge protection will not be able to properly protect your electrical equipments.
3. Set no load shutdown switch to "ON" if you want the UPS to shutdown automatically in backup mode when the total power consumption of all connected electrical equipments are less than 60 watt in order to save energy and prolong battery life. (Factory default setting is "OFF")

In case your electrical equipment is a PABX. The power consumption of PABX is less than 60 watt, you need to set the no load shutdown switch to "OFF".
 4. Plug the power cords from your electrical equipments such as computer, printer, modem, etc. into the UPS output outlets.

Caution : Power consumption of all connected electrical equipments must not exceed the UPS rated capacity. We recommended to connect load not over than 75% of UPS rated capacity. (Keep the remain 25% available for instantaneous power consumption of the load when it first starts)

5. Plug the laser printer power cord into the laser printer outlet which provide surge protection only. (This outlet does NOT supply backup power when there is a blackout).
6. Plug the UPS power cord into the wall outlet.
7. Turn the UPS on by pressing the POWER button at the front panel and then turn on all connected electrical equipments.
8. **Testing Operation**

After the battery is fully charged, you can test operation by turning on the UPS. When the LINE lamp is lit, turn on the computer and peripherals. Test UPS operation by unplugging the UPS power cord to simulate a blackout event, the UPS should automatically supply backup power.

In this simulated blackout situation, the UPS alarm sounds at intervals, the LINE lamp is off and the ALARM lamp is on at the same time as the alarm sounds. If the UPS supplies backup power to your computer, plug the UPS power cord into an AC source. The ALARM lamp should go off and the alarm should stop sounding when the LINE lamp comes on. This shows that the computer can operate both in blackout and normal power conditions. You should retest using this procedure 3 - 4 times to confirm proper operation.
9. Battery power can be normally tested when the UPS is plugged into the mains by pressing TEST button. It tests the battery power during operation showing the alarms as in table 1.
10. When finishing your work at the computer, shut it down and turn the UPS off to insure sufficient battery power is available when there is a blackout.
11. If you have to store the UPS for a long period of time, we recommend that you charge it at the time of storage and recharge it every three months by connecting the UPS to the mains power and turning it on for at least 8 hours. This is important to preserve the condition of the internal battery.

TROUBLE SHOOTING

SYMPTOMS	POSSIBLE CAUSES	SOLUTIONS
Press the POWER button, the LINE lamp is off and UPS alarm sounds. But UPS operates normally.	UPS power cord is not plugged into the wall outlet properly.	Plug in firmly.
	Power not available at the wall outlet.	Plug UPS into another wall outlet. If the UPS still does not operate, please send it to LEONICS Service Center.
ALARM lamp blinks, alarm sounds periodically. Circuit breaker at the rear panel is normal.	Circuit breaker at the rear panel has tripped.	Reset circuit breaker. If the UPS still does not operate, please contact LEONICS Service Center.
	UPS power cord is not plugged into the wall outlet properly.	Plug in firmly
ALARM lamp blinks, alarm sounds periodically. Circuit breaker at the rear panel is normal.	AC circuit breaker has tripped.	The AC circuit overloaded. Reduce loads which connected to the same AC circuit as the UPS or connect the UPS to another AC circuit.
	UPS power cord is not plugged into the wall outlet properly.	Plug in firmly
ALARM lamp is lit all the time, alarm sound long beep and UPS does not operate. The Circuit breaker has tripped	Loads which are connected to the UPS are exceed the UPS rated capacity or short circuit has occurred.	1. Shutdown UPS and reduce loads. 2. Reset the circuit breaker.
During blackout, ALARM lamp is lit all the time, alarm sounds a long beep. The circuit breaker is normal. UPS does not supply backup power.	Loads which are connected to the UPS are exceed the UPS rated capacity.	Shutdown UPS and reduce loads.
During blackout, LINE lamp and ALARM lamp off, no alarm sound. UPS does not supply backup power.	Battery is discharged.	When AC source returns, turn on UPS to charge the battery.
UPS does not supply backup power in the setting period or backup period too short.	Loads are exceed the UPS rated capacity, UPS is trying to supply power exceeding its capacity.	Reduce loads and check that their total power must not exceed the UPS rated capacity.
	Battery is discharged.	Turn on UPS for 8 hours to charge battery and then test backup power. If the symptom persists, please contact LEONICS local distributor or LEONICS Service center.

SPECIFICATION

MODEL		GREEN
CAPACITY		500 VA (300 W)
SYSTEM	UPS system	Digital Line Interactive UPS
	Control system	Microprocessor 8 bit
	Stabilizer function	Buck / Boost
LOAD APPLICATION	The number of PC*	1 set + printer**
INPUT	Input Voltage	220Vac (230 Vac option) ± 25%
	Nominal Input (single phase)	220Vac (230Vac option)
	Frequency	50Hz / 60Hz ± 6% (auto sensing)
OUTPUT	Voltage stabilizer mode (sine wave)	220 Vac (230 Vac option) ± 10%
	Voltage backup mode (modify sine wave)	220 Vac (230 Vac option)
	Frequency (backup mode)	50Hz / 60Hz ± 0.1% (auto sensing)
PROTECTION	Transfer time	2 - 4 ms. (in-phase transfer)
	Output short circuit	Auto cut - off with audio & visual alarm
	Overload protection	Circuit breaker
	Surge energy dissipation	STD. UL1449 : 160 Joules (I _c = 6,500A)
	Power dissipation	1,600,000 W within 100 microsec.
Acoustic noise	Less than 40 dBA at 1 metre	
BATTERY	Type	Sealed lead acid (maintenance free)
	Capacity	12V 7 Ah (12 V 36 W (9 Ah effectiveness) optional)
	Backup time	15 - 30 min. (depend on load)
	Recharging time	6 - 8 hours (80% after fully discharged)
OUTPUT OUTLET	Number of backup outlet	2
	Number of surge protection outlet	1
FEATURE	Noload shutdown option switch	yes
	Backup test switch	yes
	DC start	yes
	Communication interface	Level communication (DB-9)
	Easy-Mon X software	optional
	Restart voltage checking system	yes
	Surge protection for telephone line	yes
Surge protection for laser printer	yes	
Operating with generator	yes	
ENVIRONMENT	Temperature	0 - 45°C
	Humidity	0 - 95% (non - condensing)
PHYSICAL DIMENSIONS (cm.)	W x H x D	10 x 17 x 33
WEIGHT (kg.)		7.5
CONFORMANCE	Design regulation	EN 50091-1, EN 50091-2, EN 50022 (B), EN 61000-4-2, (4), (6), IP 21

*PC = Pentium 4, 1.8 GHz with 15" monitor respectively, **Printer = Bubble jet or Dot matrix printer
Continuous product development is our commitment. In that manner, the above specifications may be changed without prior notice.