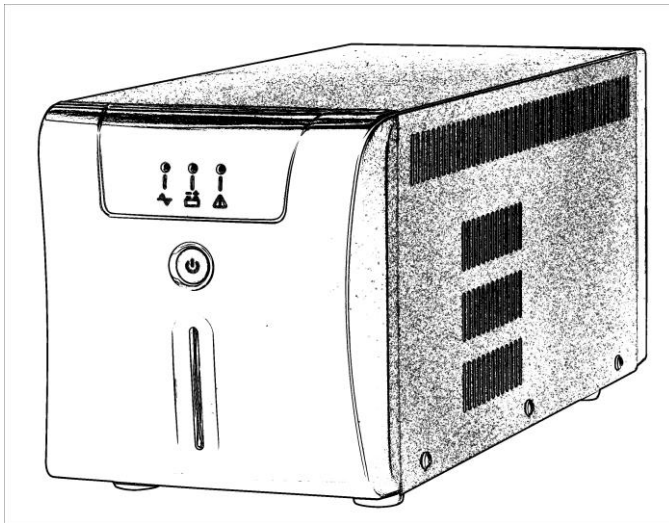


**P-600, P-650, P-850, K-1000
K-1200, T-1500, T-2000**

Uninterruptible Power Supply



USER'S MANUAL

Please keep this manual with UPS!

Please read and understand this instructions manual!

This manual provides safety, installation and operation instructions which will guide you to the best performance of your equipment.

Please keep this manual!

It includes important instructions for the safe usage of the equipment and to obtain manufacturer's Support in case of need.

Please keep or recycle the packaging materials!

Packaging materials used in our products are designed to provide protection from transportation.

These materials are necessary in case that the equipment needs to be shipped back for service. Damage that may occur during the shipment is not covered by the product's warranty.

INTRODUCTION

1-1 System Description

This product is line interactive UPS with LED indicators, newest technology and powerful functions.

The Line Interactive UPS is designed with 2-Steps Boost and 1-Step Buck AVR to stabilize input voltage. Input voltage range is -%30, +%25, but output regulation is ±10%.

The Line Interactive UPS provides you with the ability of perfect protection for your critical devices.

1-2 Features

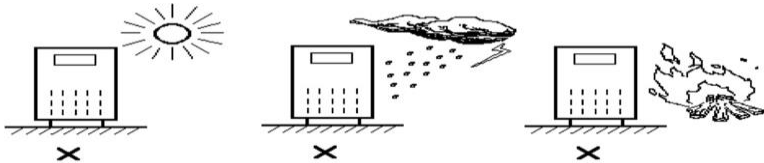
- ✓ Line Interactive design
- ✓ Mikroprocessor control guarantees high reliability
- ✓ Frequency 50Hz/60Hz auto-sensing
- ✓ Equipped with 2-Steps Boost and 1-Step Buck AVR to stabilize input voltage
- ✓ Built-in DC start function enable UPS to be started up without AC power supply
- ✓ UPS Green Mode (Energy Saving Function)
- ✓ Off-mode Charging
- ✓ Modem/Phone line surge protection
- ✓ Over/Low Voltage, Short-Circuit, and Lightning/Surge (Optional) protection
- ✓ Built-in CCCV (Constant Current, Constant Voltage) battery charger

CAUTION

- The UPS contains voltage that is potentially hazardous. Qualified or certified technician should proceed all repairs and maintenance.
- 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 ½ 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 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 code should perform installation.

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.

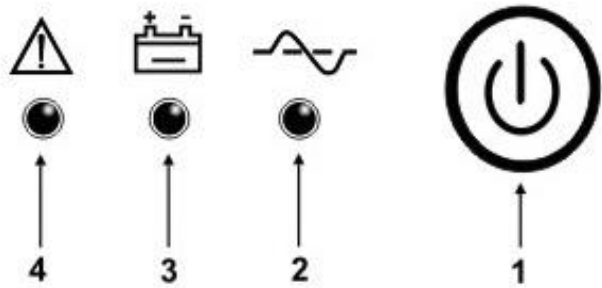


Caution: Never connect a laser printer or plotter to the UPS. A laser printer or plotter periodically draws significantly more power than its idle status and may overload the UPS.

OVERVIEW

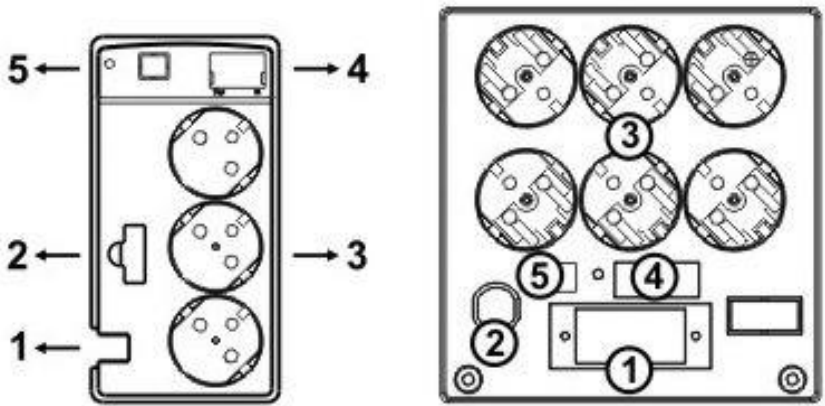
Front Panel

- 1. **Main Power Switch:** ON/OFF or Silence Button
- 2. **On-Line LED:** AC normal
- 3. **Akü LED:** Battery in backup
- 4. **Uyarı LED:** Overload or Fault



Rear Panel

- 1. **AC Input:** Connect to input power cord
- 2. **AC Fuse / Circuit Breaker**
- 3. **Outlets**
- 4. **RJ-11 (optional)**
- 5. **Communication Interface:** RS232 or USB port (optional)



OPERATION

- When UPS is connected to city utility, but UPS is not powered on, UPS will charge battery automatically and Green LED will flash every 2 seconds. Please press main switch on front panel for 1 second to turn on UPS.
- To turn off UPS when UPS is under AC mode, please press main switch on front panel for 4 seconds. To turn off UPS when UPS is under battery mode, please press main switch and then UPS will shut down completely in 10 seconds.
This UPS designed with “Off-mode charging”, so UPS will charge battery continuously when UPS is under AC normal. If users intend to power off UPS completely, users have to plug out power cord from city utility.
- Press on main switch for 4 seconds when city utility is black out, UPS will be turned on and then g oto backup mode. To turn off UPS, please press main switch for 4 seconds again. If users want to turn on UPS again, please wait for 10 seconds to press main switch for 4 seconds again.
- When UPS is under battery mode and battery voltage is too high or low, buzzer will beep.
- Buzzer will beep twice every 8 seconds when city utility is black out. To silence alarm, please simply press main switch. To re-start alarm, please press main switch again.

STORAGE

To ensure battery life, please kindly read and also follow below instruction completely.
This unit is shipped from the factory with its internal battery fully charged, however, some charge maybe lost during shipment 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
-15°C to 30°C	Every 6 Months	10 Hours
30°C to 45°C	Every Month	10 Hours

BASIC INDICATION TABLE

BACKUP MODE	Status	Yellow LED	Green LED	Red LED	Buzzer
	Battery normal, Load normal	2 flashes every 4 seconds	Off	Off	2 beeps every 8 seconds
	No Load (For Green Mode Function only)	One flash every 4 seconds	Off	Off	One beeps every 8 seconds
	Over Load (will shut down at 120% load)	2 flashes every 4 seconds	Off	On	Continuous beep
	Over Temperature	32 flashes every other 2 seconds	Off	Off	Depending on load situation
	O/P short circuit	32 flashes every other 2 seconds	Off	Off	32 beeps every other 2 seconds
	Low battery	4 flashes every second	Off	Off	4 beeps every second
	Over battery voltage (for external battery)	8 flashes every second	Off	Off	8 beeps every second
	In phase lock (AC good PLL working)	Off	4 flashes every second	Off	Off

AC NORMAL MODE	Status	Yellow LED	Green LED	Red LED	Buzzer
	Battery full	Off	Continuous On	Off	Off
	Battery charge 70%-90%	Off	One blink every 8 seconds	Off	Off
	Battery charge 50%-70%	Off	One blink every 4 seconds	Off	Off
	Battery charge 30%-50%	Off	One blink every 2 seconds	Off	Off
	Battery charge 0%-30%	Off	One blink every second	Off	Off
	Over Load (shut off at 120% of full load)	Off	On	On	Continuous Beep

OFF MODE	Status	Yellow LED	Green LED	Red LED	Buzzer
	AC I/P disconnected (UPS OFF completely)	Off	Off	Off	Off
	AC I/P normal (Batt. In charge)	Off	One flash every 2 seconds	Off	Off
	UPS timer is set (Through RS232)	One flash every 2 seconds	One flash every 2 seconds	Off	Off

TROUBLESHOOTING

Upon UPS failure, please kindly check UPS by following steps. If there is no problem with below points, please kindly send UPS for service.

- Is main power switch turned on
- Is the UPS plugged into a working Wall outlet?
- Is the line voltage within the rating specified?
- Is the fuse blownd (at rear panel)?
- Is the UPS over-loaded?
- Is battery not fully charged?

Please provide the following information when call for service.

1. Model & serial number
2. Date of the problem ocured, date of purchase.
3. Full description of the problem including load, LED and alarm status, installation condition, working environment, etc...

UPS can not turn on, LED not light:

- Possible Cause: ON/OFF/SILENCE button not pushed or push-time too short.
Action to Take: Press ON/OFF/SILENCE button more than 1 second.
- Possible Cause: Battery voltage less than 10 V.
Action to Take: Recharge the battery.
- Possible Cause: PCB failure.
Action to Take: Call for service.
- Possible Cause: Load less then 25W at battery mode.
Action to Take: Normal condition. “No load shutdown function” is active.

UPS always at battery mode:

- Possible Cause: Power cord lose.
Action to Take: Plug in the power cord.
- Possible Cause: AC fuse burn out.
Action to Take: Replace the AC fuse.
- Possible Cause: PCB failure.
Action to Take: Call for service.

Backup time too short:

- Possible Cause: Battery not fully charged.
Action to Take: Recharge the UPS at least 5 hours.
- Possible Cause: Battery defective.
Action to Take: Replace the battery, call for service.

Buzzer continuous beeping:

- Possible Cause: Overload
Action to Take: Remove some loads.

This uninterruptible power supply that you bought has a CE mark and comply with the international standards.

NOTES

TECHNICAL SPECIFICATIONS

MODEL	P - 600	P - 650	P - 850	K - 1000	K - 1200	T - 1500	T - 2000
CAPACITY	600VA	650VA	850VA	1000VA	1200VA	1500VA	2000VA
	360W	390W	510W	600W	720W	900W	1200W
INPUT							
VOLTAGE	220VAC / 230VAC / 240VAC						
VOLTAGE RANGE	-30% +25%						
FREQUENCY	50Hz / 60Hz Auto-sensing						
OUTPUT							
VOLTAGE REGULATION	+/- 10% (battery mode)						
FREQUENCY	50Hz / 60Hz +/-1Hz						
WAVEFORM	Simulated Sinewave						
TRANSFER TIME	<6ms (typical)						
BATTERY							
DC VOLTAGE	12 VDC			24 VDC			
RECHARGE TIME	5 Hours to 90% after complete discharge						
BATTERY PROTECTION	Over Discharge Protection						
ADVANCED BATTERY MANAGEMENT	Yes						
FUNCTIONS							
DISPLAY	LED status indicators for AC normal (Green), Back-up (Yellow), UPS cut off (Red)						
ALARM	Buzzer on for Back-up mode, battery low, overload						
SHORT CIRCUIT PROTECTION	AC fuse and Electronic circuit (line mode): Electronic circuit (Back-up mode)						
VOLTAGE REGULATION	2-Steps Boost and 1-Step Buck AVR						
DC START FUNCTION	Yes (cold start)						
ENVIRONMENT							
OPERATING TEMP.	0 C° 40 C°						
RELATIVE HUMIDITY	0- Non-condensing						
AUDIBLE NOISE	<40dB at 1 meter						
DIMENSIONS (DxWxH)	305x98x170mm			385x98x170mm		360x150x160mm	

*LEGA has rights to change specifications without prior notice.