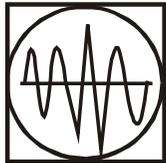


Emergency Backup Power Supply



For Use With Computer Loads Only



Power Surge/Noise Protection



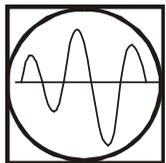
Intelligent Auto-Shutdown Software



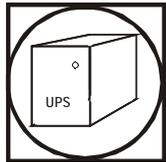
Internet Line Protection



Cost Efficiency



AVR Protection



Compact & Reliable Design

# USER'S MANUAL



1st Edition, 2018

## Uninterruptible Power System

701-0071299 UPS-7730BR-NLCD-01

## TROUBLE SHOOTING

If the UPS does not operate properly, please follow below steps to check and fix problem firstly. If the problem remains, please consult sales agent or authorized distributor for service.

- Is the main power switched on?
- Is the UPS plugged into a working outlet correctly?
- Is the line voltage within the rating specified?
- Is the AC breaker on the rear panel blown or damaged?
- Is the UPS over loaded?
- Is battery not fully charged? Dead battery? Charger failure?

Please provide the following information when call for service.

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

Trouble-Shooting Chart		
Problem	Possible Cause	Solution
UPS is not turned on, LCD is not lighted, and no alarm.	Switch on front panel is in "Off" position.	Press "Power On/Off" button to turn on UPS.
	Breaker on rear panel is damaged.	Replace breaker and restart UPS.
	Power cord is loose.	Check if input power cord is plugged into wall outlet tightly.
UPS stays at battery mode always.	Power cord is loose.	Check if input power cord is plugged into wall outlet tightly.
	Breaker on rear panel is damaged.	Replace breaker and restart UPS. If problem remains, call for service.
Backup time is shorter than rated.	Batteries are not fully charged	Recharge batteries for at least 6 hours and then test backup time again. If problem remains, call for service.

## IMPORTANT SAFETY INSTRUCTIONS

Thank you for selecting this uninterruptible power system (UPS). It provides emergency backup power and overall protections for your important devices upon utility outages.

### Please read this manual !

This manual provides safety, installation and operating instructions which will guide you to the best performance of the UPS.

### Please save this manual !

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

### Please save or recycle the packaging materials !

Packaging materials used in this UPS are designed to provide protection from transportation. These materials are necessary in case that the UPS needs to be sent or shipped back for service. Damage that may occur during transportation and/or shipment is not covered by the UPS's warranty.

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# SPECIFICATIONS

Capacity		2000VA	3000VA
Input	Voltage	110/115/120VAC or 220/230/240VAC ±25%	
	Frequency	50Hz or 60Hz ±5%	
Output	Voltage (Batt. Mode)	110/115/120VAC or 220/230/240VAC ±5%	
	Frequency	50Hz or 60Hz +/- 1Hz	
	Waveform	Modified sine wave	
	Transfer Time	Less than 6ms (typical)	
Battery	Battery Type	12V/7AH*4PCS	12V/9AH*4PCS
	Recharge Time	5 hours to 90% after complete discharge	
Status Indicator	LCD	Input and output voltage, AC normal, Load level, Battery level, Overload, Fault	
Alarm	Battery Back-up	Sounding every 3 seconds	
	Battery Low	Sounding every 1 second	
	Overload	Continuous beeping sound	
Protection	Overload	Fuse & current limited	
	Short Circuit	Fuse & current limited & Cut off	
	Batt. Low Cut-off	No battery drain after cut-off	
Physical	Dimension	530mm*19"*2U (D*W*H)	
Environment	Temperature	32°F-104°F at full load,	
	Humidity	0~95% relative humidity (non-condensing)	
	Noise Level	Less than 40db at 1 meter	
Interface	Smart USB communication port	Shutdown software supporting Windows 95/98/NT/2000/ME/XP/2003/Vista/7/8/10	

## BATTERY FACTS

The battery is the only periodically serviceable parts in the UPS. Expected life for batteries is about 3-5 years. However, frequently long discharges or ambient temperatures over 80°F will reduce battery life. Therefore, it is recommended to replace the batteries every 3 years after initiating the unit.

Recharge batteries every 3 months is necessary if it is not in use because it may cause batteries over-drain.

## WARNING

**Only a qualified technician should replace the battery. Batteries have high short-circuit current capacity; mistakes upon connecting or disconnecting can cause connections to arc or weld, and furthermore could cause severe burns.**

## STORAGE

The UPS should only be stored if the battery is fully charged. Avoid storage temperatures over 80°F as battery life is significantly shortened. Every 90 days remove the unit from storage and plug it in for 24 hours to recharge the batteries. Batteries may be damaged if there are left in storage and not recharged every 90 days.

### IMPORTANT NOTICE

Please use same type and same rating of batteries for replacement.  
Do not replace it with the battery that exceeds specified rating.

## CAUTION

- The UPS contains voltages that are potentially hazardous. All repairs should be performed by qualified service personal.
- 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 power supply.
- The UPS is suitable for computers and electronic equipment with substantially 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 1/2 or 1/3 of rated power is recommended for longer backup time and 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, please detach power cord and consult your dealer right away. Do not remove cover if there is no serviceable part inside.
- The unit should be supplied by grounded source. Do not operate the unit without grounded source.
- The socket-outlet should be installed near the equipment and be easily accessible.
- Do not plug the UPS power cord into itself. That will result in a safety hazard.
- Installation should be performed by a qualified technician or electrician in accordance with local electrical codes.

# INTRODUCTION

## System Description:

The product is line interactive UPS with comprehensive LCD display, advanced technology and outstanding function. The line interactive UPS is made with voltage stabilizer. It accepts input voltage range +/- 25%, but output voltage regulation is +/- 5% due to its embedded voltage stabilizer.

The line interactive UPS provides emergency backup power as well as overall protections for your important devices in home or office upon utility outages.

## Features:

- Line interactive design
- Rack / tower convertible design
- User friendly comprehensive LCD display
- Equipped with boost and buck AVR to stabilize utility voltage
- Constant current, constant voltage (CCCV) battery charger and battery over drain protection
- Over/under voltage protection (UPS goes to battery mode)
- UPS charges itself even though power switch is off (Off-mode charging)
- Built-in DC start function enables UPS to be started without AC power supplied (dip switch set up)
- No-load auto shutdown (dip switch set up)
- Buzzer alarm auto-reset (dip switch set up)
- Auto-restart when AC recovery
- Lightning / surge protection 175 joules
- Modem / phone / fax / internet line protection RJ-45
- Management software is designed to monitor and control UPS status
- USB communication port and cable for managing function via PC

# INSTALLATION AND OPERATION

## Installation:

Upon receipt of the UPS, inspect the shipping carton for damage. If there is any obvious damage, immediately report it to the selling dealer or the delivering carrier. If no damaged is noticed, unpack the unit and then inspect the unit for damage.

The UPS should be installed in a protected environment with temperature ranged from 32°F to 104°F and relative humidity 0~95% without condensation. Do not block inlets and outlets. Install the UPS in a location where is away from excessive dust and chemical fumes.

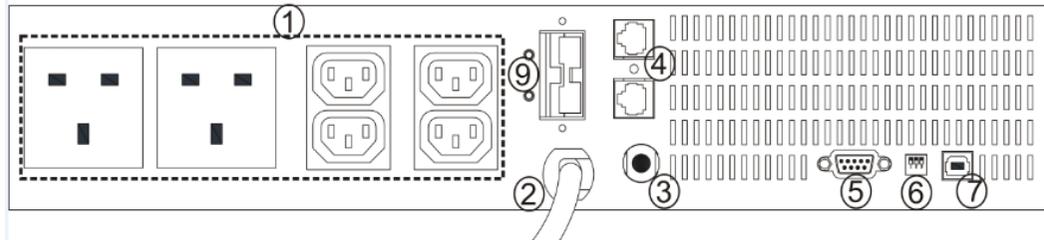
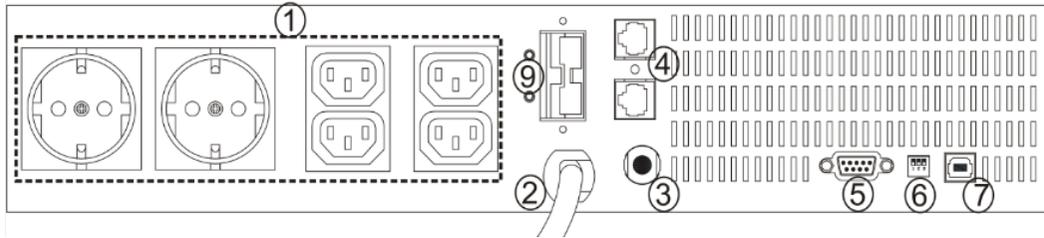
Check the identification label to verify the UPS voltage and power rating to match the specified line voltage and load requirements.

## Operation:

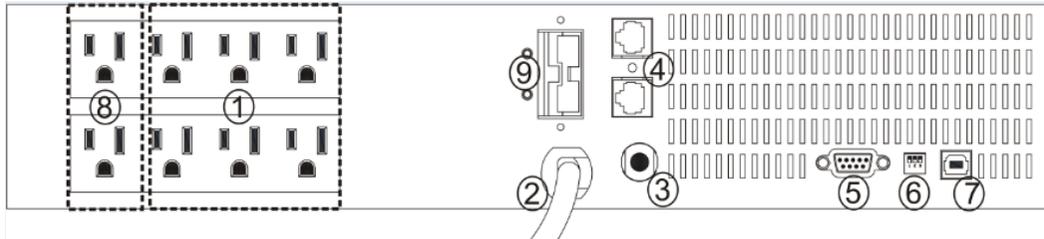
1. Check if "Power On/Off" button on UPS front panel is in "Off" position and then make sure that the voltage of AC utility corresponds to the voltage specified on sticker pasted on UPS. If no problem, plug UPS input power cord into grounded wall outlet.
2. When UPS is connected to AC utility, LCD is lighted and shows "UPS OFF". This UPS is made with "Off-mode charging", so UPS automatically starts to charge itself after it is connected to AC power even though UPS is not turned on.
3. Press "Power On/Off" button and "Normal" icon on LCD will light on for 2 seconds. The UPS is then ready and starts to work normally.
4. Connect your PC with UPS and then turn on PC. Check "Load level" on LCD and be sure not to load UPS over 100% (To operate with load less than 80% is recommended). To simulate AC failure, simply press "UPS Test" button on front panel. It helps to insure whether UPS is in good condition or not. Alarm beeps every 3 seconds and "Battery" icon lights on when UPS is at battery mode. If "Fault" icon lights on, it means that UPS in abnormal condition. Then you have to call for service.
5. When battery approaches low level, alarm beeps every second until automatic shutdown.
6. UPS will shut down automatically under either of below conditions.  
(1)Battery low (2)Short circuit (3)Overload (4) UPS fault

## Rear Panel:

### German/UK\*2PCS + IEC\*4PCS:



### Nema5-15R\*8pcs:



1. **Backup/AVR outlets**
2. **AC input power cord**
3. **AC breaker**
4. **Modem / phone / fax / internet line protection port**
5. **Communication Interface Port:**  
This port combines relay contact and RS-232 signal (Optional) on DB9 connector.
6. **Dip switch for UPS function setting**
7. **USB communication port**
8. **Surge protected outlets**
9. **External battery connector**

## SYSTEM CONCEPT

The purpose to present this chapter is to give you more precise conception about how UPS works..

### 1. Block Diagram

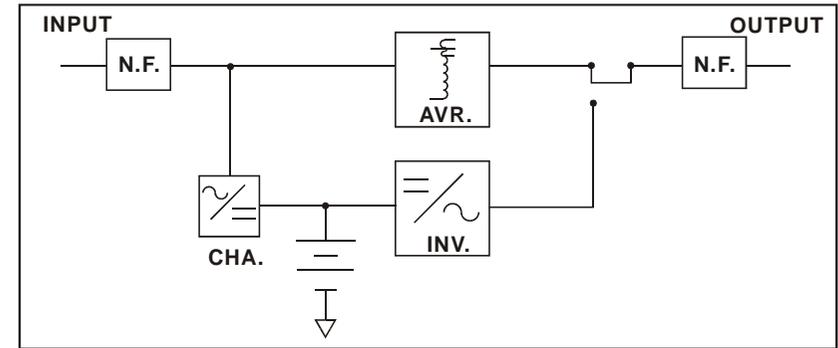


Fig. 1 : how UPS works.

### 2. Normal Operation

There are two main loops when AC utility is normal - the AC output loop and the battery charging loop. The AC output gets power from AC utility input and pass through AVR to support power to load. In the same time, the AC utility input is converted by AC/DC CHA and support charging power to charge batteries.

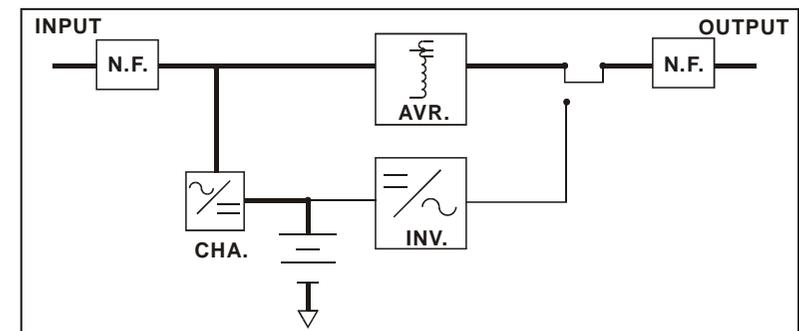


Fig. 2 : how the UPS works when AC Utility is normal.

### 3. AC Utility Failure

If AC utility fails, the UPS quickly detects the problem and activates the inverter. The DC/AC inverter changes DC power from the batteries into AC and provides continuous uninterruptible power to load.

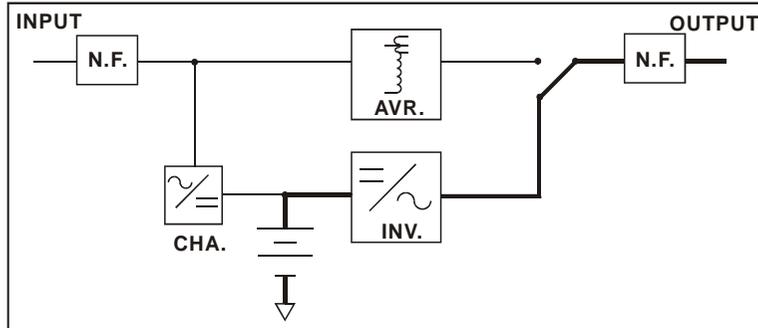


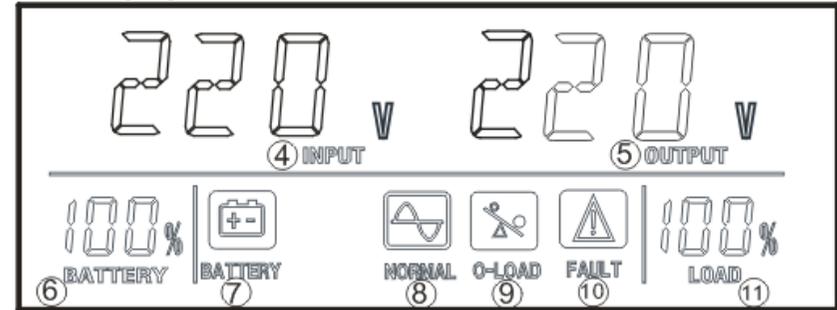
Fig. 3 : how the UPS works when AC Utility Failure

## OVERVIEW

### Front Panel:



1. **Power On/Off Button:** Turn on and turn off the UPS.
2. **UPS Test Button:** When UPS is working on AC mode, it also activates the UPS's self-test by press this button.
3. **LCD display:**



No.	Indication	Description
4	Input Voltage	Indicate input line voltage value.
5	Output Voltage	Indicate output voltage value.
6	Battery Capacity	Estimated battery capacity, the accuracy is influenced by UPS operation mode and load level.
7	Battery	AC power is abnormal and UPS is under back-up mode.
8	Normal	UPS is under normal status.
9	Overload	UPS is overloaded. Buzzer will beep continuously. Please remove some load.
10	Fault	UPS is in fault condition.
11	Load Level	The load level, percentage of full load.

