



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

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1 INTRODUCTION

System Description

The Product is line interactive UPS provides guaranteed battery backup power during outage and unsafe fluctuation, along with full protection from damaging surges and spikes. The UPS also integrated with voltage stabilizer to automatically maintain a constant voltage level. The UPS provide the perfect protection to safeguard your critical devices and valued data.

Features

- Auto restart upon AC recovery.
- Equipped with voltage stabilizer to provide stable utility voltage.
- Built-in CC/CV battery charger and battery over-drain protection.
- DC start function enable UPS started without AC power supplied.
- Off mode charging enable UPS charge itself even power switch is OFF.
- Provide lightning, surge, overload, and short circuit protection.
- LCD status indicator.

2 CAUTION

- ▶ The UPS contains electricity 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 linear loads, not suitable for electronic equipment with non-linear loads, such as motors & fluorescent lamps.
- ▶ Be sure to operate within the power rating of the UPS. Below 1/2 or 1/3 of the rated power is recommended for longer backup time.
- ▶ The UPS must be installed in a protected environment away from heating appliances such as a radiator or heater. **DO NOT** place the UPS near excessive humidity, under sunshine, or close to heating sources.
- ▶ If the UPS is out of order, disconnecting the power cord and contact with your dealer right away.
- ▶ The unit should be supplied by a grounded source. **DO NOT** operate the unit without a ground source.
- ▶ The UPS should be installed near to wall socket and equipment and be easily accessible.
- ▶ **DO NOT** plug the UPS's power cord into UPS's output socket. That will result in a safety hazard.

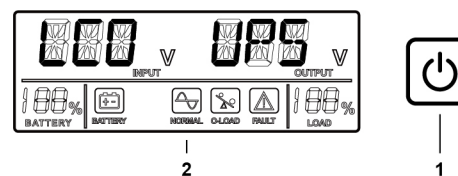
▶ A qualified technician or electrician in accordance with local electrical code should perform installation.

▶ **DO NOT** connect a laser printer or plotter to the UPS. A laser printer or plotter periodically draw significantly more power than its idle status, and may overload the UPS.

3 OVERVIEW

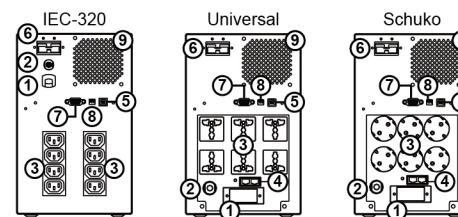
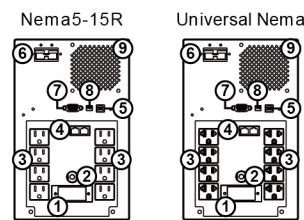
Front Panel

1. Power Switch: ON/OFF or silence button
2. LCD screen



Rear Panel

1. AC input line cord
2. AC circuit breaker
3. Backup/AVR/surge protection outlet
4. Tel/Line/Modem surge protection RJ-45 port
5. Smart USB communication port
6. External battery connector(optional)
7. Dry contact DB-9 port
8. UPS function setup switch: Buzzer alarm, DC start, No load shutdown
9. Cooling fan



4 OPERATION

Turn On/Off the Unit

Turn on the UPS unit on AC mode by pressing the power switch once. Turn off the UPS unit on AC mode by pressing the power switch once.

Connect to Utility and Charging

When UPS is connected to AC power and power switch is on, UPS will charge battery automatically.

The UPS is designed with the function of OFF-Mode Charging, so UPS will charge battery continuously when power switch is off and AC power is supplied. To power off UPS completely on OFF mode, please remove the input of AC power.

DC Start

Turn on the UPS unit on Battery mode by pressing the power switch for once. Turn off the UPS unit on Battery mode by pressing the power switch for once, and UPS will be completely turned off in 10 seconds. Wait another 10 seconds to press power switch for once if you want to turn on the UPS again.

UPS function setup switch

- No load shutdown: Enable this function, UPS will auto shutdown if the loading is less than 50W ; Disable this function, UPS will not auto shutdown if the loading is less than 50W.
- DC start: Enable this function, UPS can be started by battery power when there is no AC power supplied; Disable this function, UPS cannot be started by battery power when there is no AC power supplied.
- Buzzer alarm: Enable this function, buzzer beep when UPS is on DC mode; Disable this function, buzzer will not beep when UPS is on DC mode, however, buzzer will beep when UPS is on low battery.

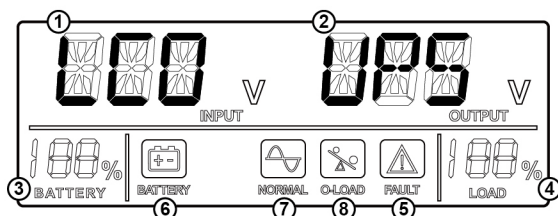
Switch	No load shutdown	DC start	Buzzer alarm
↓	Enable	Enable	Enable
↑	Disable	Disable	Disable

5 BATTERY CHARGING AND STORAGE

The UPS is shipping from Factory with internal full-charged battery, but battery power might be lost during the transportation. So please plug in the AC input line cord to wall outlet. For best result, charge the battery for at least 10 hours before initial use.

Storage Temperature	Recharge Period	Charging Duration
-15°C to 30°C (5°F to 86°F)	Every 6 Months	10 Hours
30°C to 45°C (86°F to 113°F)	Every Month	10 Hours

6 INDICATION TABLE



Indicators	Description
1	Input Voltage Indicate input line voltage.
2	Output Voltage Indicate output voltage.
3	Battery Capacity Indicate estimated battery capacity. The accuracy will be influenced by UPS operation mode and load capacity.
4	Load Capacity Indicate load level, the percentage of UPS full load.
5	Fault Icon Icon is ON when UPS is fault or UPS battery is abnormal. Buzzer beeps constantly or rapidly.
6	Battery Icon Icon is ON when AC power is abnormal and UPS is on Battery mode. Buzzer beeps once every 3 seconds when battery and load are normal. Buzzer beeps once every second when battery low voltage.
7	Normal Icon Icon is ON when UPS is normal.
8	Overload Icon Icon is ON when UPS is overload. Buzzer makes constant tone.

7 TROUBLESHOOTING

Check UPS with below steps when you face UPS failure problem:

- Is the power switch of UPS turned on?
- Is UPS plugged into a working wall outlet?
- Is line voltage within the rating specified?
- Is circuit breaker on the UPS back panel active?
- Is UPS overloaded?
- Is UPS battery not fully charged?

Use the table below to solve the UPS operation problems. If the problems cannot be resolved, please provide model name, serial number, date of purchase, date of the problem occurred and full description of the problem including load status, UPS LCD status, UPS buzzer status, installation environment...etc. when call for service.

Problem	Probable Cause	Solution
UPS will not turn on and LCD is not ON	Battery voltage is less than 10VDC	Charge the UPS at least 5 hours
	PCB is failure	Call for service to replace the PCB
UPS is always on Battery Mode	Power cord is loose	Reconnect the power cord properly
	Circuit breaker is tripped	Reset the circuit breaker on the UPS back panel
	PCB is failure	Call for service to replace the PCB
Backup time is shortening	Battery is not fully charged	Charge the UPS at least 5 hours
	Battery defect	Replace the battery with same type of battery
Buzzer continuously beeping when AC is normal	UPS is overloaded	Remove some loads first. Make sure the equipment plugged in to the UPS is not overloading the capacity of UPS

8 SPECIFICATION

INPUT	
Voltage	110/115/120Vac or 220/230/240Vac
Voltage Range	-25% +25%
Frequency	50Hz or 60Hz
OUTPUT	
Capacity	Label specified
Voltage Regulation (Battery Mode)	+/-10%
Frequency	50/60Hz +/-1Hz
Waveform	Simulated sinewave
Transfer Time	<6ms (typical)
BATTERY	
Voltage	48VDC
Recharge Time	5 hours to 90% after fully discharged
Safety Protection	Over charge and over discharge protection
Advance Battery Management	Yes
INDICATORS	
LCD	Programmed LCD
Alarm	Buzzer ON for battery mode, low battery, overload, fault
PROTECTION	
Short circuit	Line Mode: AC breaker and electronic circuit ; Battery Mode: electronic circuit
Over-temperature	Thermal switch
Over/Under Voltage	Yes
Surge Protection	240 Joules
SAFETY/REGULATORY	
Safety Approvals	EN 62040-1
EMC Compliance	EN 62040-2
PHYSICAL	
Operating Temperature	0°C to 40°C (5°F to 104°F)
Related Humidity	0 to 95% non-condensing
Audible Noise	< 40dB at 1M
Dimension(D*W*H)	390*182*285mm

9 NOTES