

Long-run UPS Series Quick Guide

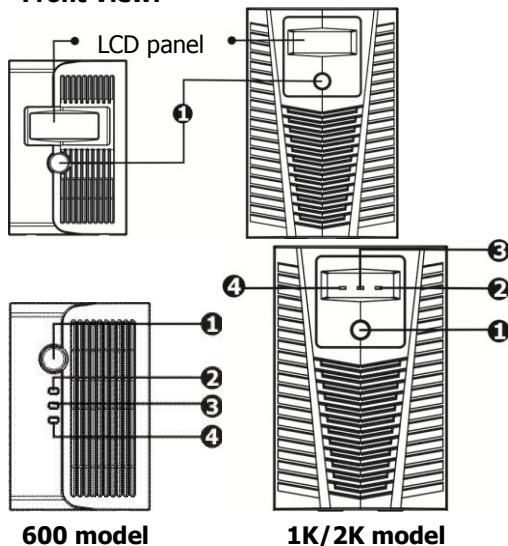
Version. 3.1

1. Product Introduction

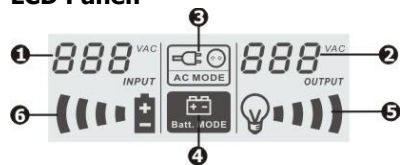
This UPS is a compact unit which combines both benefits of UPS and inverter for long-time operation. It can accept wide input voltage range and provide stable and pure power source to the connected devices such as personal computer, monitor and other precious 3C products.

2. Product Overview

Front View:



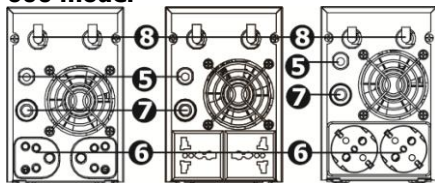
LCD Panel:



- ① Input voltage
- ② Output voltage
- ③ AC mode indicator
- ④ Battery mode indicator
- ⑤ Load level indicator, flashing indicates overload
- ⑥ Battery capacity indicator, flashing indicates low battery

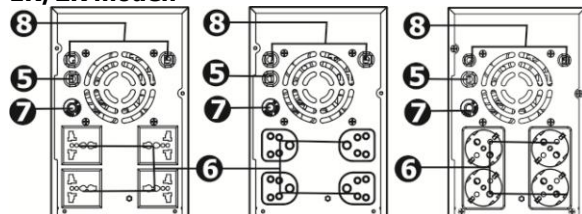
Back View:

600 model



- ① Power Switch
- ② Line mode indicator: green lighting
- ③ Battery mode indicator: yellow flashing
- ④ Fault indicator: red lighting
- ⑤ AC input
- ⑥ Output receptacles
- ⑦ Circuit breaker
- ⑧ External battery terminal

1K/2K model:



3. Important Safety Warning (SAVE THESE INSTRUCTIONS)

CAUTION! Careful to reduce the risk of dropping a metal tool on the batteries. It could spark or short circuit the batteries and could cause an explosion.

CAUTION! Remove personal metal items such as rings, bracelets, necklaces, and watches when working with batteries. Batteries can produce a short circuit current high enough to make metal melt, and could cause severe burns.

CAUTION! Avoid touching eyes while working near batteries.

CAUTION! Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.

CAUTION! NEVER smoke or allow a spark or flame in vicinity of a battery.

CAUTION! If a remote or automatic generator start system is used, disable the automatic starting circuit or disconnect the generator to prevent accident during servicing.

CAUTION! The unit is designed for indoor use. Do not expose this unit to rain, snow or liquids of any type.

CAUTION! The mains socket outlet that supplies the UPS shall be installed near the UPS and shall be easily accessible. The UPS power cord must be connected to an earthed mains socket outlet for safety reasons.

CAUTION! To reduce risk of injury, only use qualified batteries from qualified distributors or manufacturers. Any unqualified batteries may cause damage and injury. Do NOT use old or overdue batteries. Please check the battery type and date code before installation to avoid damage and injury.

WARNING! It's very important for system safety and efficient operation to use appropriate external battery cable. To reduce risk of injury, external battery cables should be UL certified and rated for 75° C or higher. And do not use copper cables less than 10AWG. Below is the external battery cable reference according to system requirements.

Table 1 Minimum Recommended Battery Cable Size versus Length

Model	Typical Amp.	1 meter (one-way)	Dia-mm
600	40 A	AWG 10	5.0
1K/2K	59 A	AWG 8	5.9

CAUTION! Do not disassemble the unit. Contact with the qualified service center when service or repair is required.

WARNING! Provide ventilation to outdoors from the battery compartment. The battery enclosure should be designed to prevent accumulation and concentration of hydrogen gas at the top of the compartment.

CAUTION! Use insulated tools to reduce the chance of short-circuit when installing or working with the inverter, the batteries, or other equipments attached to this unit.

CAUTION! For battery installation and maintenance, read the battery manufacturer's installation and maintenance instructions prior to operating.

5. Installation

NOTE: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged.

Checking Package Contents

You should receive the following items inside of the package:

- UPS unit
- User manual

Connect External Battery

Step 1 - Install a DC Breaker in a positive battery line. The rating of the DC Breaker must be according to the inverter's battery current (50 Amp). Keep the DC breaker off. **(see Fig. 1)**

Step 2- Connect battery cables to the terminals of battery.

Note: For the user operation safety, we strongly recommend that you should use tapes to isolate the battery terminals before you start to operate the unit.

1) Single battery connection(Refer to Fig. 1): When using a single battery, its voltage must be equal to the Nominal DC Voltage of the unit **(see below Table 1).**

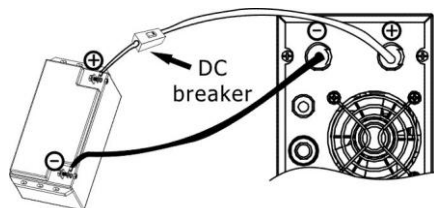


Fig. 1

Model	Nominal Battery DC Voltage
600/1K	12 VDC
2K	24 VDC

Table 1

2) Multiple batteries in series connection (Refer to Fig. 2): All batteries must be equal in voltage and amp hour capacity. The sum of their voltages must be equal to the nominal DC Voltage of the unit.

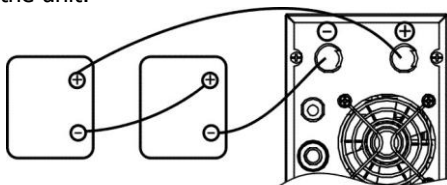


Fig 2

3) Multiple batteries in parallel connection (Refer to Fig. 3): Each battery's voltage must be equal to the Nominal DC Voltage of the unit.

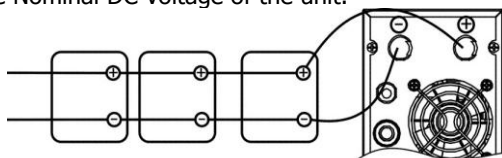


Fig 3

Step 3- Make sure to connect the polarity of battery side and the unit correctly.

Positive pole (Red) of battery to the positive terminal (+) of the unit.

Negative pole (Black) of battery to the negative terminal (-) of the unit.

Step 4- Put the covers back to the external battery terminals.

Step 5- Take the DC breaker on.

Connect to Utility and Charge

Plug in the AC input cord to the wall outlet. The unit will automatically charge the connected external battery even though the unit is off.

Connect to Device

Simply plug devices to battery supplied sockets. During power failure, it will provide continuous power to connected devices.

4. Specifications

Technical Specifications			
MODEL	600	1K	2K
CAPACITY	600 VA / 360 W	1000VA/600 W	2000VA/1200 W
INPUT			
Voltage	230 VAC		
Voltage Range	140 – 300 VAC		
OUTPUT			
Voltage Regulation (Batt. Mode)	230 VAC ± 10%		
Frequency Range (Batt. Mode)	50 Hz ± 1Hz		
Transfer Time	4-8 ms typical		
Waveform	Simulated Sine Wave		
BATTERY			
Battery Voltage	12 VDC		24 VDC
Maximum Charge Current	10 A	20 A	
PHYSICAL			
Dimension (DxWxH) mm	358.5 x 96.8 x 146.5	395 x 145 x 220	
Net Weight (kgs)	5.8	9.0	13.55

6. Trouble Shooting

Use the table below to solve minor problems.

Problem	Possible Cause	Solutions
Utility power is normal but the unit is in battery mode.	AC input power cord is not connected well.	Check AC input power connection.
	Input breaker is activated.	Reset the input breaker.
When power fails, the backup time is shorten.	The unit is overload.	Remove some non-critical loads.
	Battery voltage is too low.	Charge the unit at least 8 hours.
	Battery capacity is not full even after charge the unit for at least 8 hours.	Check the date code of the battery. If the batteries are too old, replace the batteries.
Nothing display on the front panel when the utility power is normal.	The unit is not turned on.	Press power switch to turn on the unit.
	Battery is not connected well.	Check the external battery cable and terminal. Make sure all the battery connections to the unit are all correct.
	Battery defect.	Replace the batteries.
	Battery voltage is too low.	Charge the unit at least 8 hours.