User manual

RP-UPH 6K/10K



ON LINE UPS

REV. 2

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1. INTRODUCTION

1.1 General Description

The continuity of electrical power is an essential requirement for critical load operations .The Uninterruptible Power System (UPS) is designed to meet the user's need of present computer, server and the equipment of office automation that make the UPS more compact and less noisy. To choose the UPS as your equipment protector is a wise investment because it supplies reliable, pure and stable power at affordable price.

1.2 Key features

- 1. Wide input range designed to operate under harsh environment.
- 2. High input power factor and DC-start function.
- 3. LED and LCD display for detail status and data; real-time alarm silence.
- 4. Remote monitoring with SNMP intelligent slot and RS-232 interface.
- 5. Light weight and compact size, easy to transport and place.

1.3 Important Notices

To be sure that the UPS will be operated correctly, the following items should be noticed:

- 1. Read instructions carefully before operating the UPS.
- 2. UPS power connect instruction should be followed.
- 3. Please don't open the case to prevent danger.
- 4. If the UPS will be stored for long period, the battery must be charged once every 90 days.
- 5. Retain the load within the rating of UPS to prevent faults.
- 6. Keep the UPS clean and dry.
- 7. Keep the front air inlet and rear air outlet of the UPS are unblocked to avoid over-temperature failure.

2. SAFETY INSTRUCTION

2.1 Transporting

- 1. Disconnect all power cables if necessary.
- 2. Be careful not to damage the UPS while transporting.
- 3. Don't move the UPS upside down.
- 4. Please transport the UPS system only in the original packaging (to protect against shock and impact).

2.2 Positioning

- 1. Do not put the UPS on rugged or declined surface.
- 2. Do not install the UPS system near water or in damp environments.
- 3. Do not install the UPS system where it would be exposed to direct sunlight or near heat.
- 4. Do not block off ventilation openings in the UPS system's housing and don't leave objects on the top of the UPS.
- 5. Allow a minimum distance of 20 cm in the rear and two sides of the UPS for ventilation.
- 6. Keep the UPS far away from heat emitting sources.
- 7. Do not expose it to corrosive gas.
- 8. Ambient temperature : 0°C -40°C

2.3 Important notices

1. Caution - risk of electric shock.

Even after the unit is disconnected from the mains power supply (building wiring socket outlet), components inside the UPS system are still connected to the battery and are still electrically live and dangerous. Before carrying out any kind of servicing and/or maintenance, disconnect the batteries and verify that no current is present.

- Only persons adequately familiar with batteries and with the required precautionary measures may exchange batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.
- 3. Batteries may cause electric shock and have a high short-circuit current. Please take the precautionary measures specified below and any other measures necessary when working with batteries:
 - remove wristwatches, rings and other metal objects
 - use only tools with insulated grips and handles.
- 4. When changing batteries, install the same number and same type of batteries.
- 5. Do not attempt to dispose of batteries by burning them. This could cause battery explosion.
- Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes.
- 7. Ensure that no fluids or other foreign objects can enter the UPS system.

3. SYSTEM DESCRIPTION

3.1 Front panel description for LCD



	Buttons	Description	
1.	LCD Display	LCD Display: This indicates the UPS operation information, including UPS status, input/output voltage, input/output frequency, battery voltage, battery capacity left, output load and inside temperature. UPS output voltage , frequency can be set from it here, too.	
2.	Up-key	 Press ▲Up-key to select upward Switch Off: press both Up-key▲(2) and Down-key▼(3) simultaneously for 3 seconds until UPS beeps for twice. 	
3.	▼ Down-key	 Press ▲Down-key to select downward Switch Off: press both Up-key▲(2) and Down-key▼(3) simultaneously for 3 seconds until UPS beeps for twice. 	

4.	 Enter-Key 	 Switch On: Press both Down-key ▼(3) and Enter-key ◄ (4) simultaneously for 3 seconds until UPS beeps for twice. Mute: Under battery mode, press both Up-key▲(2) and Enter-key ◄ (4) simultaneously for 3 seconds To disable the buzzer. Self-test: Under line mode, press and hold both Up-key▲(2) and Enter-key ◄ (4) simultaneously for 3 seconds to initiate the self-test 10 seconds. 	
5.	Fault LED (red)	To indicate the UPS has an internal fault.	
6.	Warning LED (yellow)	To indicate the UPS is in the status of overload, bypass and battery back-up.	
7.	Normal LED (green):	To indicate the UPS is working normally and the gree ormal LED LED indication is lighting on. green): To indicate the UPS is off and the green LED indicate is blinking.	

3.2 OUTLINE

6K/10K Tower



3.3 Rear description

6K/10K Tower



4. INSTALLATION

Installation and wiring must be performed in accordance with the local electric code and the following instructions by professional personnel. For safety, please cut off the mains power switch before installation. The battery breaker also needs to be cut off.

- 1. Open the terminal block cover located on the rear panel of the UPS [,] please refer to the appearance diagram.
- For 6K UPS, it is recommended to select the UL1015 10AWG (6mm2) wire or other insulated wire which complies with AWG Standard for the UPS input and output wirings.
- For 10K UPS, it is recommended to select the UL1015 8AWG (10mm2) wire or other insulated wire which complies with AWG Standard for the UPS input and output wirings.
- 4. To connect the load with the UPS, please turn off all the loads first, then perform the connection and finally turn on the loads one by one.
- Connect the input and output wires to the corresponding input and output terminals according to the following diagram
 Note: you must make sure that the input and output wires and the input and output terminals are connected tightly.
- 6. After having completed the installation, make sure the wiring is correct.
- 7. If the UPS connect external batteries, make sure the battery polarity and voltage are correct.

Note: Do not use the wall receptacle as the input power source for the UPS, as its rated current is less than the UPS's maximum input current. Otherwise the receptacle may be burned and destroyed.

5. OPERATION

5.1 Check Prior to Start Up

- 1. Ensure the UPS is in a suitable positioning.
- 2. Check input cord is secured.
- 3. Make sure the load is disconnected or in the "OFF" position.
- 4. Check if input voltage meets the UPS rating required.

5.2 Operation Procedure for LCD Model

Please follow the instructions below for UPS operation.



- Once the AC source is connected, the LCD Display shall light up immediately to display first the main menu of greeting context and the Normal LED is blinking to indicate ready to switch on the inverter.
- By pressing the Enter-key
 and the Down-key
 simultaneously for 3 seconds, the UPS will start up after two beeps and Normal LED lights up to indicate the power is from its inverter to the load.
- 3. When the Up-key▲ and the Down-key▼ are pressed simultaneously for 3 seconds, the inverter will be turned off after two beeps and the UPS is on the standby status (LCD display illuminates and Normal LED is blinking) until AC source is disconnected.

5.3 Storage Instruction

Disconnect input power in rear panel if you will not use it for long period. If the UPS is stored over 3 months, please keep supplying power to the UPS for at least 24 hours to ensure battery fully recharged.

5.4 LCD display

Use Up/Down key to select menu-displays of the LCD described below. This screen will refresh once the system power is enabled.



1 · Rated specification

3 · Voltage





BAT:OK

0

INVERTER

WARNING

0

AC:FAIL

BAT.

0

4 · Frequency





2 · Status

5 · Battery status





6 · Output power

7 · Temperature



$8 \cdot Bypass range setting$

(Under AC mode, this menu is displayed before turning the UPS on)

A. To protect the load, the function of bypass auto-transfer is activated only when the AC main voltage is within the setting range of LO(low) and HI(high). Once AC main voltage exceeds the Setting range, the bypass output will be closed automatically to protect the load. In this screen, press Enter-key

to enter the following steps for LO/HI voltage setting.



B. The cursor (→) will pop up to indicate the item newly selected.
 Press Enter-key◀ to get the item of LO or HI range the user wants to adjust.

Use Up▲ or Down-key▼ to adjust the voltage (changing 1V by every press). LO (low rang) :176V+/-20V, HI(high range):253V+/- 20V).

 C. Once the value is confirmed, press Enter-key◀ again to save the data.





- Output voltage/frequency setting (Under AC mode, this menu is displayed before turning the UPS on)
 - A. In this screen, press Enter-key◀ to enter the following steps for output voltage and frequency setting.
 - B. The cursor (→) will pop up to indicate the output voltage and frequency newly selected.





- C. Use Up▲ or Down-key▼ to adjust the output voltage and frequency. Press Enter-key◀ to confirm voltage and then the cursor will move to frequency selection. The output voltage (208V, 220V, 230V or 240V) are available. The output frequency (50Hz, 60Hz, 50HzP or 60HzP) are available. UPS is off without bypass output once the frequency (50Hz or 60Hz) is selected. UPS is off with bypass output once the frequency (50HzP or 60HzP) is selected.
- D. Once the correct voltage(or frequency) is selected, press Enter-key◀ again to save the selection.

The new setting will be performed after The UPS is restarted.





6. TROUBLE SHOOTING GUIDE

No	UPS status description	Solution
1	AC utility power is normal. UPS is running normally, but battery capacity is low. Buzzer beeps once every second for battery low.	Please check charger board and battery.
2	AC utility power is normal. The output load is supplied through bypass of AC utility. Fault LED lits up and buzzer beeps continuously.	Please contact your agent for service.
3	AC utility power is normal but UPS is overloaded. Warning LED lits up and buzzer beeps. But UPS has not switched to bypass.	Please reduce the critical load to <100%.
4	AC utility power is normal but UPS is overloaded. Warning LED lits up and buzzer beeps. And UPS has been switched to bypass.	Please reduce the critical load to <70%, the UPS will return to inverter to supply power automatically.
5	The AC output comes from battery, passing through DC/AC inverter to supply AC power to load.	Please check the voltage and frequency of AC utility.

7. COMPUTER INTERFACE

7.1 COMMUNICATION

- This series is equipped with an intelligent slot for an optional card (USB card or AS400 card) to achieve remote management of the UPS. Please contact your local distributor for further information.
- 2. The following are the descriptions and pin assignment of RS232 DB-9 port:

Baud rate : 2400bps Data length : 8bit Ending bit : 1bit Parity : None

DB-9 pin assignment

Pin #	Description	I/O		
2	TXD	Output		
3	RXD	Input		
5	GND	Ground		

8.SPECIFICATION

Model		RP-UPH603T-	RP-UPH103T	
Capacity		6KVA/6KW	10KVA/10KW	
	Nominal voltage	220Vac ; 1P2W+G		
	Nominal frequency	50Hz / 60Hz		
	Outlet	Terminal blocks		
Input	Voltage range	110Vac~300Vac【 load <50% 】		
Input	Low voltage transfer	110Vac [load <50%] 110Vac + 2.2* (load%-50%) [load 50%~80%] 176Vac [load>80%]		
	Power factor	\geq 99% [100% RCD load, nominal input voltage, nominal load, full batterv		
	Type/Number	Seal Lead Acid battery 12V*20pcs		
5.4	Built-in	1 set (12V*20pcs)		
Battery	Charging voltage	273Vdc		
	Charging current	1A / 2A / 3A / 4/	A [Max: 4A]	
	Voltage	208/220/230 or 240Vac 【power d	erating 90% for 208Vac];1P2W+G	
	Frequency range	50Hz / 60Hz ± 0.1Hz		
	Outlet	Terminal blocks + IEC outlet*2		
	Wave-form	True sine wave		
Output	Frequency lock range	50Hz / 60Hz ± 4Hz		
	Overload (Line mode)	100%~110% : 10minutes ; 110%~130% : 1 minute ; >130% : 1 second		
	Overload (Battery mode)	100%~110% : 30 seconds ; 110%~130% : 10 seconds ; >130% : shutdown immediately		
	Transfer time	Oms		
	Line mode	93% 【 R load 100% 】		
Efficiency	Battery mode	91% [R load 100%]		
	LED	Yes		
Display	LCD	Yes		
	Alarm	Yes		
	connector	RS232*1 / Intelligent slot*1		
Communication	Interface card	Option: USB,	AS400 or SNMP	
	Audible noise	<55dB@1M	<58dB@1M	
	Operating humidity	< 95% ; non	-condensing	
Environment	Operating	0.40%		
	temperature	U-40°C		
	Altitude	<1000m for nominal power		
	Dimension (W*D*H)	260*550*740mm		
Physical	Weight (with battery)	81.5 kgs	84 kgs	
	Weight (without battery)	31 kgs	33.5 kgs	

** All specifications are subjected to change without further notice.