

User's Manual
UPS

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UPS

750VA/1000VA/1500VA

Appliances



PC



TV



Light



Electric fan

SPECIFICATIONS

CAPACITY	750VA/1000VA/1500VA		
INPUT			
Voltage Range	140~280VAC +/-5%		
Frequency Range	50Hz+/-5Hz or 60Hz+/-5Hz		
OUTPUT			
Voltage Regulation	Battery mode	Line mode	
	230VAC +/-5%	200 VAC ~ 240 VAC	
Transfer Time	6 ms (typical), 10 ms (max)		
Waveform	sine wave		
BATTERY			
Battery capacity	750VA	1000VA	1500VA
	12V 9AH*1	12V 7AH*2	12V 9AH*2
Maximum Charge Current	2A	1.6A	2A
Output power factor	0.7		
Backup time(50% load)	750VA	1000VA	1500VA
	>5.0 minute		
PHYSICAL			
Dimension (D*W*H) mm	473 x 213 x 283		
Net Weight (kg)	750VA	1000VA	1500VA
	14.0	18.2	18.5
OTHER			
Storage temperature	-15°C to 55°C		
Ambient temperature	0°C~40°C		
Noise	≅ 60dB		
Communication	RS232 or USB		

Table Of Contents

GENERAL PRECAUTIONS	1
PERSONNEL PRECAUTIONS	1
INTRODUCTION	2
PRODUCT OVERVIEW	2
INSTALLATION	3
Unpacking and inspection	3
OPERATION	3
LED indicators & audible alarms	4
LCD display	5
Display Select	6
LCD Setting	7
Operating mode description	8
Fault reference code	9
COMMUNICATION	10
TROUBLE SHOOTING	10
SPECIFICATIONS	11

GENERAL PRECAUTIONS

1. Before using it, read all instructions and markings:
(1)UPS (2) the batteries (3) this manual
2. Do not expose it to rain, snow or liquids of any type. It is designed for indoor.
3. Do not disassemble it. Take it to a qualified service center when service or repair is required.
4. To prevent the risk of electric shock, disconnect all wiring before attempting any maintenance or cleaning. Turning off the unit will not reduce this risk.
5. Input/output AC wiring must be no less than 16 AWG gauge copper wire and rated for 75 °C or higher.

PERSONNEL PRECAUTIONS

1. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
2. Avoid touching eyes while working near batteries.
3. NEVER smoke or allow a spark or flame in vicinity of a battery.
4. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with batteries. Batteries can provide heavy short-circuit current, enough to make metal melt and causes severe burn.
5. If a remote or automatic generator start system is used, disable the automatic starting circuit or disconnect the generator to prevent accident during servicing.

FOLLOW STANDARD.

EN 60950-1:2006+A2:2013+A11:2009+A1:2010+A12:2011
EN 55022:2010. EN 55024:2010. EN 61000-3-3:2008

COMMUNICATION

Refer to User Guide of PowerMonitor.

TROUBLE SHOOTING

If machine enters into fault mode, please remove input power. And according to the table, deal with the following problems.

LED/Buzzer	LCD	Explanation / Possible cause	What to do
Buzzer beeps And red LED is off	Blink battery ICON	Battery voltage is too Low.	Charge the unit at least 8 hours.
	Blink load ICON	Over load.	Decrease your load.
Buzzer beeps continuously and red LED is on.	Fault code 02	Temperature of machine is too high.	Power off and waiting for minutes.
	Fault code 03	battery voltage is too high.	Check the battery specifications.
	Fault code 04	battery voltage is too low.	Check the battery specifications.
	Fault code 05	Output short circuited.	Remove your load and restart.
	Fault code 06	Inverter output voltage is high.	Return to repair center.
	Fault code 07	Over load.	Decrease your load.
	Fault code 11	Main relay fault.	Restart the machine. If it still can't work, please return to repair center.
	Fault code 41	Input voltage too low.	Check input power.
	Fault code 42	Input voltage too high.	
	Fault code 42	Input frequency too low.	
Fault code 44	Input frequency too high.		
Fault code 45	AVR fault.	Restart the machine. If it still can't work, please return to repair center.	
Fault code 51	Output short circuited.	Check if wiring is connected well and remove abnormal load.	
Fault code 58	Output voltage is too low.	Decrease your load.	

Fault Reference Code

Fault Code	Fault Event	Icon on
02	Over Temperature	02
03	Battery voltage is too high	03
04	Battery voltage is too low	04
05	Output short circuited	05
06	Inverter output voltage is high	06
07	Over load	07
11	Main relay fault	11
41	Input voltage too low	41
42	Input voltage too high	42
43	Input frequency too low	43
44	Input frequency too high	44
45	AVR fault	45
51	Over current	51
58	Inverter output voltage is low	58

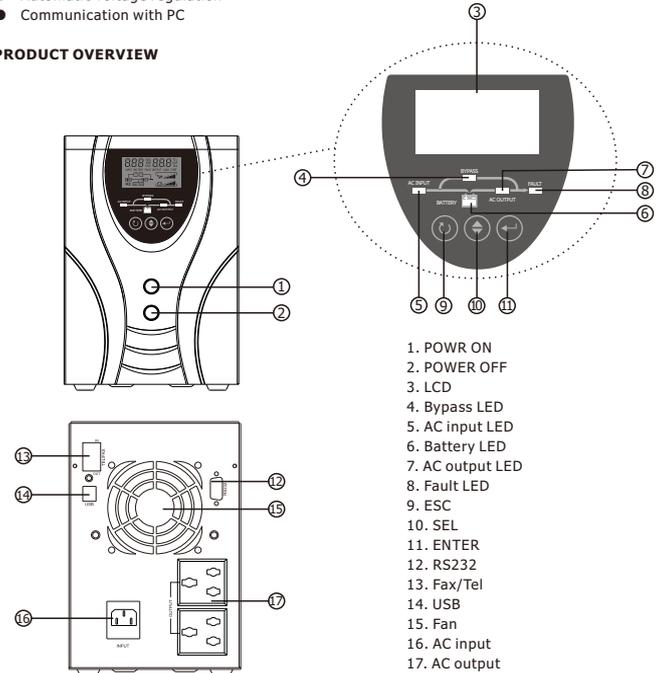
INSTALLATION

It is a cost effective, intelligent UPS. The comprehensive LCD offers user-configurable and easy-accessible button adjustment such as frequency, buzzer etc.

Features:

- Sine wave UPS
- Friendly HMI
- 3 steps charging algorithm
- MFD (multi-function display)
- Overload and short-circuit protection
- Deep discharge protection
- Automatic voltage regulation
- Communication with PC

PRODUCT OVERVIEW



1. POWER ON
2. POWER OFF
3. LCD
4. Bypass LED
5. AC input LED
6. Battery LED
7. AC output LED
8. Fault LED
9. ESC
10. SEL
11. ENTER
12. RS232
13. Fax/Tel
14. USB
15. Fan
16. AC input
17. AC output

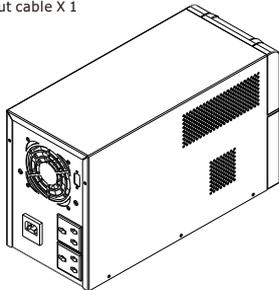
INSTALLATION

Unpacking and inspection

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

You should have received the following items inside of package.

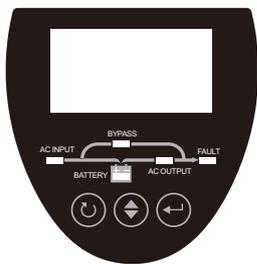
- The unit X 1
- User manual X 1
- Software CD X 1
- Communication cable X 1
- AC input cable X 1



OPERATION

Press "ON" for 2 seconds to turn on the unit. The unit will work automatically in line mode or inverter mode according to input utility status. When "OFF" is pressed and held for 2 seconds, the unit will be turned off. When machine is working, buzzer can be controlled by pressing "ON".

The display panel, shown in below chart, is on the front panel of the inverter. It includes four front indicators, three function keys and a LCD display, indicating the operating status and input/output power information.

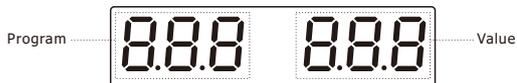


Operating Mode Description

Operation mode	Description	LCD display
Fault mode	If any fault has happened, the machine will enter to the mode. And fault code is displayed on the LCD.	
Charger Mode	In this mode, the battery will be charged through grid power. When input power is abnormal, the machine will power off or switch to fault mode.	
Line Mode	Input power will provide energy to load directly. And it will charge the battery at the same time. If voltage of input power is outside of section, [200v, 240v], AVR will work. When input power is abnormal, the machine will switch to battery mode.	
Battery Mode	The unit will get energy from battery and provide to load.	

LCD Setting

After pressing and holding "ENTER" button for 2 seconds, the unit will enter setting mode. Press "ENTER" button to select setting programs. Press "SEL" button to change parameter. Press "ESC" button for 2 seconds to exit. All the parameters will take effect, after resetting machine.



Setting program information

Program	Description	
04	Grid frequency type	50Hz (default) 04 50 Hz
		60Hz 04 60 Hz
24	Alarm	ON (default) 24 AON
		OFF 24 AOF
25	Enable key sound	ON (default) 25 boN
		OFF 25 boF

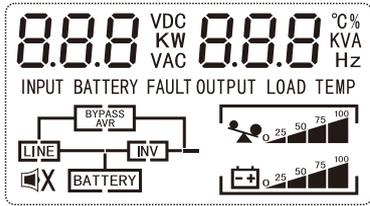
If you want to reset all the parameters, pressing "SEL" button for 2 seconds will enter into reset settings dialog. Please select "DEF" through "SEL" button. Press "ESC" button for 2 seconds to exit and all parameters will be default state. Reset machine and all the parameters will take effect.

LED Indicators & Audible Alarms

There are four LED indicators in the front panel of the unit

LED Indicators	Messages
Backup Mode	<p>Buzzing every 2 seconds</p>
Line Mode	
Charger Mode	<p>All of LEDs is off.</p>
Low battery voltage warning	Buzzing every 2 seconds and red LED blinking
overload warning	Buzzing every 2 seconds and red LED blinking
Fault mode	Buzzing continuously and red LED is on

LCD Display



Display	Function		
Battery information in AC mode, it will present battery charging status			
Status	Battery voltage	LCD display	
Constant Current mode/Constant Voltage mode	0%~25%	All bars will blink in turns.	
	25%~50%	Bottom bar will be on and the other three bars will blink in turns.	
	50%~75%	Bottom two bars will be on and other bars will blink in turns.	
	75%~100%	Bottom three bars will be on and the top bar will blink.	
Floating mode. Batteries are fully charged All bars will be on			
Battery information in battery mode, it will present battery capacity.			
Battery Voltage	LCD display		
0%~25%			
25%~50%			
50%~75%			
75%~100%			
Load information			
	Blinking load ICON Indicates overload.		
	Indicates the load level by 0-25%, 25-45%, 50-75% and 75-100%		
	0%~25%	25%~50%	
	50%~75%	75%~100%	
Mode operation information	Refer to "Operating mode description"		
Buzzer information			
	Buzzer state is silence		
	Buzzer state is normal		
Selectable Information	Refer to "Display Select"		

Display Select

The LCD display information will be switched in turns by pressing "SEL" key. The selectable table information is as following table.

Selectable Information	LCD display
Input	Input voltage=230 V, input frequency=50Hz
Battery	Battery voltage=24.8 V, battery current = 1 A
Output	Output voltage=230 V, output frequency=50Hz
Load	Power = 879W, percent= 88%
Temperature	Temperature =30°C