Outdoor UPS

User Manual

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Please read carefully the User Manual before installing and using this product

Contents

1. INTRODUCTION

1.1 Acknowledgements

Thank you, for purchasing the outdoor UPS produced by OPTI-UPS. This product will provide the best protection for your equipment. This manual gives instructions on the installation and operation of this UPS. You will find important safety instructions, installation and on how to operate this product correctly which will prolong the life of your equipment. If any problems arise with this UPS unit, please read the trouble-shooting in Chapter 9, which goes over basic problems, before contacting OPTI-UPS.

CAUTION:

- You need to carefully read this manual before ever using the UPS for the first time. You will need to install, operate, maintain, and store this UPS according to the instructions in this manual.
- Hold on to this manual for future reference.
- Keep all of the packaging materials, they will provide protection when transporting UPS. Warranty will not cover UPS damaged from inadequate packaging.

1.2 Working Principle

The design of the UPS is manufactured to be a non-maintenance equipment. The UPS is designed to filter the surges or noises, while at the same time recharging the battery; when electric voltage is too high or too low, it will automatically adjust the output voltage; when electricity breaks off, your equipment(s) will be immediately powered by the battery; when the electricity returns, the UPS will automatically shift the load to the electricity supply from your wall outlet and begin to recharge the battery again.

1.3 Features

- The advanced charging loop design helps to prolong the life of the battery and ensures that the battery is fully charged.
- The equipment overload features are available when UPS is in normal or Battery mode.
- The case fan will automatically start once the internal temperature rises to ensure all vital circuits are working properly.
- Non-maintained power supply, surge voltage absorber, alternate current manostat, and noise filter.

2. SAFETY

2.1 Manual

DO NOT THROW AWAY MANUAL, contains important instructions and procedures on the installation and maintenance of the UPS and its battery.

2.2 Protection

UPS is waterproof, but should not be used outdoors where water collects. After installation or maintenance is completed, lock the cabinet to ensure that the UPS is properly sealed.

2.3 Handling

- The battery and UPS should be handled separately in transportation.
- Try the best to avoid violent shaking and bumping. Handle it lightly.
- Do not turn over or flip over the battery.

2.4 Battery

CAUTION: Keep battery away from any fire source to avoid explosion.
CAUTION: Use caution when disposing or handling battery, may cause electrical shock. Please follow these instructions.

DO NOT wear a watch, ring, or any other metal article
Use tools with insulated handles
Wear rubber gloves and shoes
DO NOT put any tools or metal objects on the battery

MAKE SURE that the recharge position is off before installing or pulling out the battery terminal.

CAUTION: DO NOT try to open the battery in any way, Chemicals are harmful to humans and animals.

To change the battery, please contact the local seller or selling service center for a qualified technician.

- Only change with the same type of battery.
- Disposing of the battery: Please follow your local, state and federal laws. Battery contains lead and other chemicals that must be disposed of properly.

2.5 Installation and Usage Safety

CAUTION: Input power source must be correctly grounded.

- Please see the product specifications for rated load. **Do not overload.**
- This outdoor UPS should not be connected with other loads (especially inductive loads).
- For your personal safety do not open it yourself. Seek a professional. The unit must be handled with care.

3. PRODUCT SPECIFICATIONS

Model Name		OD330	OD330-AL	OD 500-AL	OD1000-AL
Input	Capacity	330 VA / 200 W		500VA/300W	1000VA/600W
	Voltage	120V/220 Vac ± 30 %			
	Frequency	50/60 Hz ± 10 % auto sensing			
Output	Voltage (non-maintained type)	Square wave 220 Vac ± 10 %			
	Frequency (non-maintained type)	50/60 Hz ± 1 Hz auto sensing			
	Automatic voltage adjustment	When the input voltage is 9 % to 15 % lower than the central electricity, automatically boost the voltage by 15 % When the input voltage is 9 % to 15 % higher than the central electricity, automatically lbuck the voltage by 13 %			
	Transfer Time	4ms (typical)			
Protection Filitering	Instantaneous high-voltage protection	250 J，2 m s			
	Overload protection	When the load is more than 110%, the UPS will automatically shut down in 60 seconds When the load is more than 130%, the UPS will automatically shut down in 3 seconds			
	EMI/ RFI filter	10 db at 0.15 MHz, 50 db at 30 MHz			
	Short	Immediately cut off the input or output circuit breaker protection			
	Battery low voltage	Automatically shut down			
	Too hot	Automatically turn on the cooling fan			
	Higher or lower voltage	Switch to the inverted status, which can be recovered automatically			
Battery	Quantity	1 * 12V batter	2 * 12V batteries parallel connection	2 * 12V batteries Series connection	
	Charging current	5A/10A/15A/20A			
	Battery protection	Discharge low voltage protection, battery failure warning			
Warning	Mains electricity normal	Green light is on			
	Non-maintained model	Orange light is on			
	Abnormal	Red light is on			
Environment	Working environment	-20℃~ 60℃, highest 3500m, 0~ 95% (without dew)			
	Working noise	< 40db(1 meter away from the UPS surface)			
	Storage	Below the altitude of 15000m			
Outlook dimension	Weight(kg) (excluding the battery)	Net weight 16 Gross weight 18	Net weight 23 Gross weight 25	Net weight 25 Gross weight 28	
	Dimension W×D×H including installation support and handle	535×310×580 (mm)	535×310×870(mm)		
	Connecting mode	Connecting terminal outlet			

4. Installation

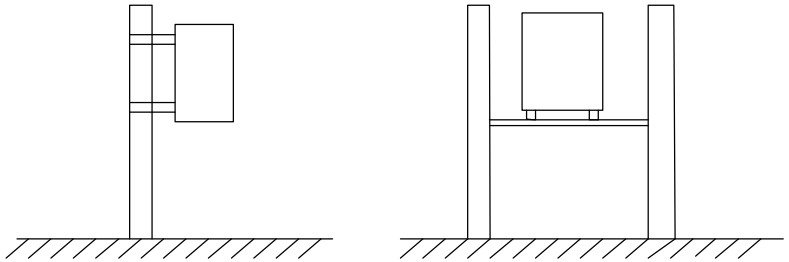
4.1 Inspection

Please inspect UPS immediately for missing parts or problems. Should there be any damage, please notify the seller.

4.2 Installing the Machine Cabinet

- Electric pole installation: **Anchor Ear Installation**. Behind the UPS machine cabinet are 2 installation poles, Please pick the size of the installation poles that you will need.

- H-pole installation: **Fastening Screw Installation**. Below the UPS machine cabinet are 2 installation poles, the UPS is placed on the H-pole, and four fastening screws are used to fix the UPS machine cabinet.



- Wall installation: **Expanding Screws plus A-Frame Installation**. The expanding screws are fixed on the wall according to the distance of four installation holes. Then the A-frame will be installed and fastened on the 2 installation poles below the UPS machine cabinet.

- Ground installation: **Expanding Screws Installation**. The expanding screws are fixed on the ground according to the distance of four installation holes. Then the UPS machine cabinet will be installed and fastened on it.

- **HIGHLY RECOMMEND:** No matter which installation method is used, try your best to keep the machine cabinet horizontal.

4.3 Connecting the Power Supply

CAUTION: Please operate strictly according to the following steps! This is to ensure personal safety and longevity of equipment.

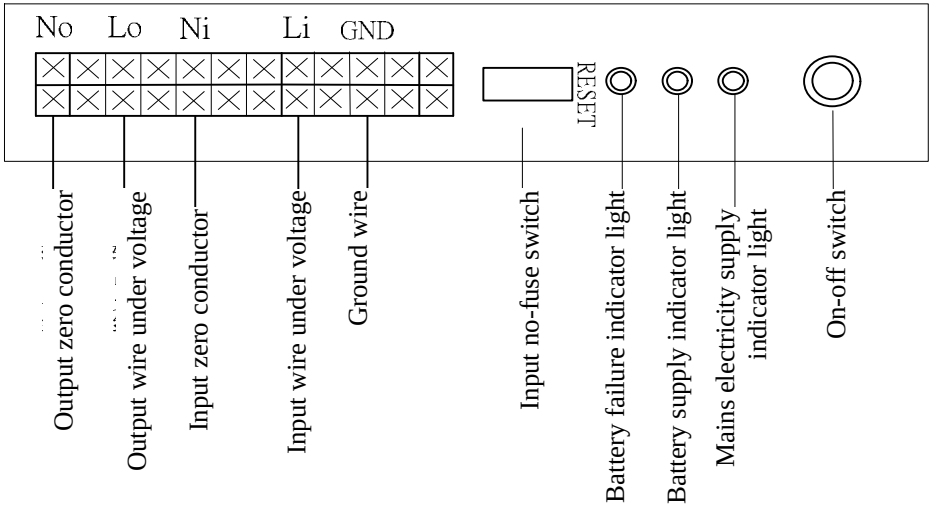
WARNING: The switches on UPS are used to control the battery supply mode, but not the central electricity supply and the bypass output. The central electricity input is controlled by an additional external air switch! If you want to do maintenance inside the equipment, you must first shut down the external NFB(Non-Fuse Breaker) of the central electricity input power supply, also shut off the inverter and the battery connection inside the machine!

1. Inspect the external air switch connected to the UPS input terminal and the internal RESET switch to ensure that they are off;
2. Open the machine cabinet door, pull the alternating current input cable into the line hole on the machine cabinet bottom, and connect it according to the marker on the connecting terminal;
3. Pull the alternating current output cable into the line hole on the machine cabinet bottom, and operate according to the marker on the connecting terminal**(the input and output cables need to be pulled through different line holes and connected separately)**
4. Place battery into the machine cabinet, connect the red and black battery lines to the positive and negative poles on the battery, and ensure that they are tightly fixed (the inverter of this machine has two working voltages, DC12V and 24V. Make sure that the voltage is correct before connection);

5. Check each connections on terminals to make sure the they are on tight and correct, also check to see whether the input and output are mixed, and last check to see that the voltage is correct;
6. Turn on both the External air and Internal Rest switches to connect to the central electricity. Then press the fore plate button longer than 1 second. Last go check to see if the output voltage and frequency is correct.
7. To see if the output voltage, frequency and panel displays are all working correctly. Please turn on and off the central electricity several times.
8. To shut down hold the fore plate button longer than 3 seconds.
9. Make sure to connect the load after switching off the external air switch at the input terminal to ensure that the system is separated from the central electricity;
9. Repeat step 6;
10. Turn on the overload switch;
11. Repeat step 7;
12. Close and tightly lock the machine cabinet door after making sure that the UPS and load are working normally;

⚠ **RECOMMEND: Please remember to properly store the key for future usage.**

5. OPERATION



5.2 Shut down

Press the foreplate button for more than 3 seconds and the machine will shut down.

5.3 Panel Instruction

When the central electricity is normal----------green light is on

When the power is off or the central electricity is abnormal----------orange light is on

When the UPS is running abnormally---------- red light is on

6. MAINTENANCE

6.1Maintenance

- Keep the machine at a horizontal position.
- Inspect on a regular basis whether screws are loose.
- It is recommended that UPS be around a ventilated area, it will help to prolong the life of the battery.
- It is recommend when changing battery that it has the same specifications.
- A regular maintenance check is required when there is no power failure for a long time. The central electricity input should be turned off purposely to discharge the battery (the discharge period depends on the load and the battery). Then connect the main electricity to charge the battery, for no fewer than 6 hours each time. When the temperature is lower than 30℃, discharge the battery every 3 months; when the temperature is higher than 30℃, discharge every 2 months.

6.2 Storage

- Store unit in a dry environment.
- Where the temperature should be lower than 50℃, and the humidity not more than 90% .
- Charge battery for at least 6 hours before storage to keep it full.
- Disconnect the cables connecting the main machine and the battery before storage.
- Battery must be recharged after being stored for more than 3 months and every three months thereafter.

7. REPAIRING

7.1 Eliminating the Malfunctions

In chapter 8 there are answers to some basic problems that may help you to trouble-shoot your problems. Please read them before contacting OPTI-UPS service center.

7.2 Obtaining Repair Services

Please provide the UPS model and serial number, date of purchase and an invoice. Also describe what the problems that you have encountered. Please ship back in original box.

7.3 Warranty

Within the warranty period the UPS will be repaired free of charge, otherwise charges will be required. The damages resulting from lack of packaging materials in sending the UPS back for repairing are excluded from the warranty.

Attention:

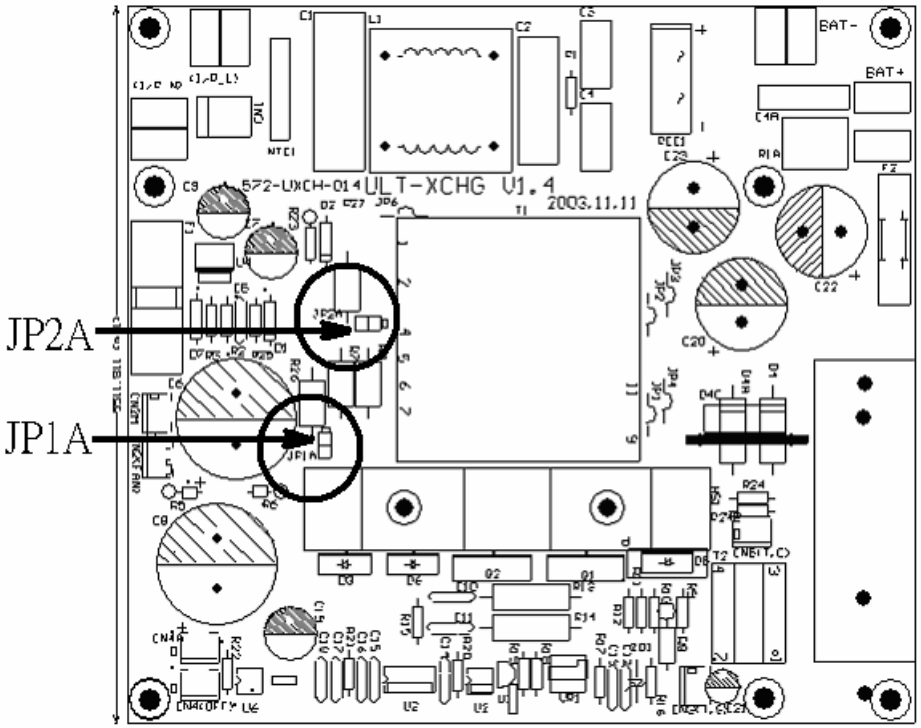
The following are some conditions that are not covered under warranty. Charges will be applied by the following formula. (charging standard= repair charge+ changing parts charge+ traveling expenses):

- Handled improperly or not according to the product user manual
- Taking UPS to a repair shop not authorized by OPTI-UPS after the failure occurs,
- Purposely damage the UPS
- Failures due to unexpected events or accidents (such as fire, flood, earthquake, lightning strike, gas explosion, and war)

8. TROUBLE-SHOOTING

Problem	Possible reasons	Recommendation
The UPS will not start after the button is pressed down	The pressing time is too short.	Press the button continuously for more than 3 seconds.
	The battery power is off or the battery line comes loose or off.	Check the battery connection and restart the machine after charging the battery for 24 hours.
	The fuse on the main circuit panel is burned out.	Ask for repair.
Can not shut down the UPS	Internal UPS failure.	Contact the agent or repair center.
Even if the mains electricity is normal, the UPS keeps being powered by the battery	The input power lead comes loose or off.	Connect the power lead and restart the machine.
	The input power breaker switches off.	Reduce the UPS load or solve the short circuit problem. Press the breaker restore button and restart the machine.
	No power input.	Check the input power supply.
	The input voltage is too high or too low, deformed or the frequency is unstable, or has surpassed the acceptable range of the UPS.	Improve the power supply condition.
The battery power supply period is shorter than had been expected	The battery is not fully charged.	Continue charging for 24 hours, and test the discharge again.
	A power failure occurred recently.	
	The battery has approached the end of its useful life.	Contact the agent or repair center.
	The UPS is overloaded.	Reduce the UPS load.

9.Charging Panel; Adjusting the Charging Current



9.1 When a jumper is inserted in neither JP1A nor JP2A, the charging current is 10A.

9.2 When a jumper is inserted in either JP1A or JP2A, the charging current is 15A.

9.3 When a jumper is inserted in both JP1A and JP2A, the charging current is 20A.