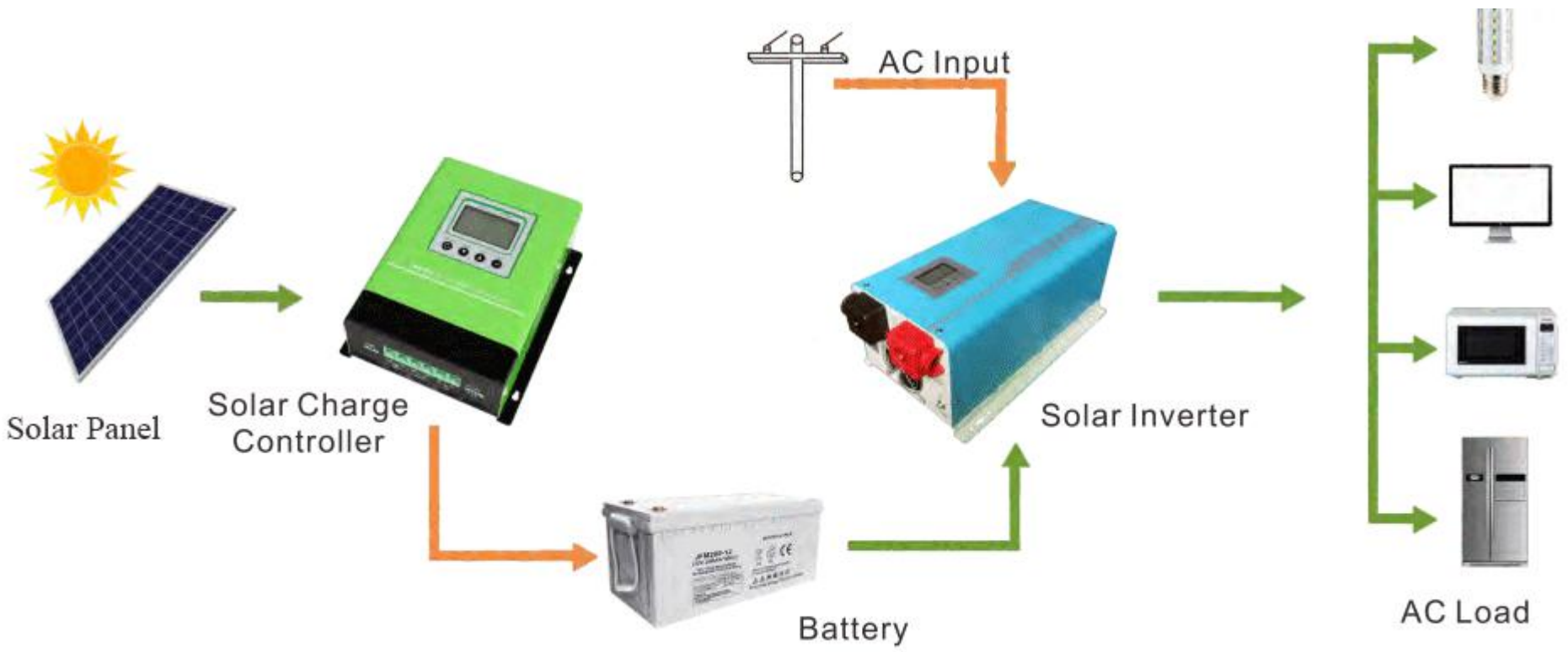
Off Grid Solar Inverter
User Manual

Dear Customers,

It's very grateful to you for trusting our company and selecting our products! Before using this product, please read carefully this user manual, including installation, using, failure investigation and other important information and suggestion, we also suggest you keep this manual well! For more solar inverters, please visit on peacosupport.com.

Note: Our company has the right of changing this user manual without any information.

Catalogue



1. Technology Parameter

Model PEACO-FT-		1KW	2KW	3KW	4KW	5KW	6KW	8KW
Rated power		1000W	2000W	3000W	4000W	5000W	6000W	8000W
Battery	Rated voltage	12V DC/24V DC /48V DC		12V DC/24V DC /48V DC		24V DC/48V DC /96V DC		48V DC /96V DC
	Charge current	30A（default）-C0-C6 can be set						
	Battery type	U0-U7 can be set						
Input	Voltage range	85V-138VAC/170V-275V AC						
	Frequency	45Hz-65Hz						
Output	Voltage range	110VAC/220VAC/230VA C, ±5%(Inverter mode)						
	Frequency	50/60Hz±1%(Inverter mode)						
	Output wave	Pure sine wave						
	Switching time	＜10ms(typical load)						
	Efficiency	＞85%（80% Resistance load）						
	Overload	110-120%/30S；＞160%/300ms；						
	Protection	Battery over voltage/low voltage, overload, short circuit protection, over temperature protection, etc.						
Operating ambient temperature		0-40℃						
Storage ambient temperature		-15 - +50℃						
Operating / Storage ambient		0-90% No condensation						
Machine Size: L*W*H (mm)		486*247*179			555*307*189			653*332*260
Package size: L*W*H（mm）		550*310*230			640*370*240			715*365*310
N.W / G.W (kg)		11/13	14/16	16/18	23/27	26/30	30/34	55/59

2. Product Features

- Adopts dual CPU intelligent control technology, excellent performance.
- The mains mode/battery mode can be set and the application is flexible.
- The charging current/battery type can be set, which is convenient and practical.
- Intelligent fan control, safe and reliable.
- Pure sine wave AC output, can adapt to various types of loads.
- The LCD displays the parameters of the inverter in real time and the operating status is clear to check.
- Output overload, over voltage/low voltage, over temperature, short circuit protection, various automatic protections and alarms.

3. Installation and Storage Instruction

3.1 Unpacking Inspection

a. Open the package, inspect product accessories including 1 inverter and 1 piece user manual.

b. Inspect whether the inverter has been damaged during the transport or not, if it has some damage, don't start the machine, take the pictures and some video to contact PEACO SUPPORT.

3.2 Precautions for Installation and Storage

3.2.1 The inverter installation should be operated by professionals.

3.2.2 When transporting the equipment, you need to take appropriate protective measures. When the equipment is moved from a low-temperature environment to a high-temperature environment, water droplets may appear. Make it dry completely before use to ensure safety.

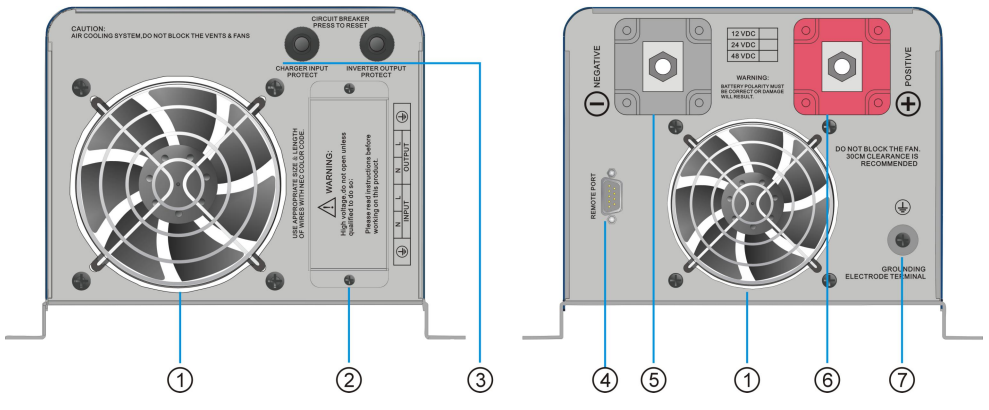
3.2.3 Do not expose the inverter in harsh environment such as humid, flammable, explosive or a large amount of dust environment. Do not cover or block the vents and reserve an air circulation gap of more than 10cm around the inverter in order to have good heat dissipation.

3.2.4 When the device is not connected to the mains and it is not used for a long time, the battery switch must be turned off.

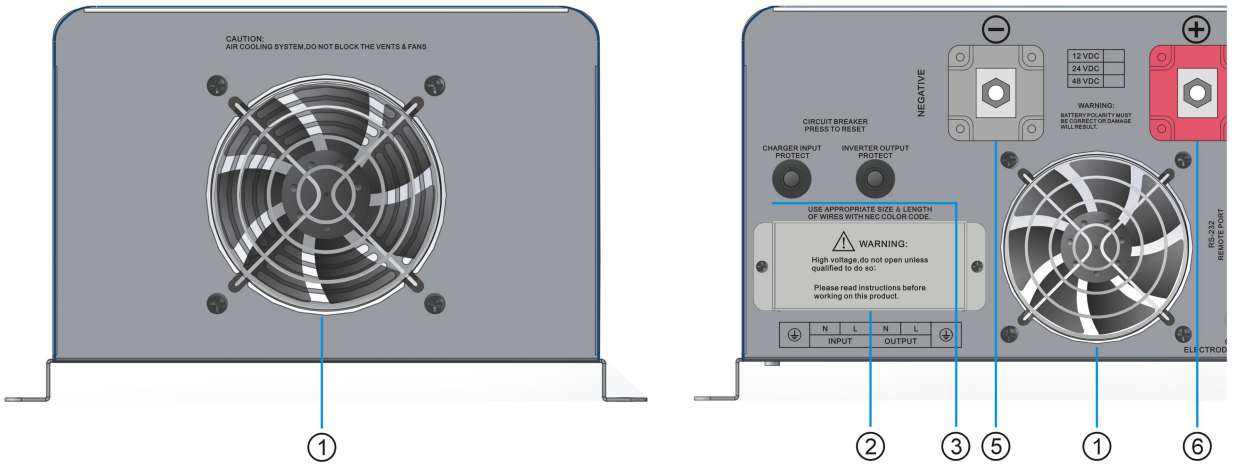
4. Inverter Appearance Diagram and Description

4.1 Inverter Appearance View

4.2 1KW/2KW/3KW View of Inverter Appearance



4.3 4KW/5KW/6KW/8KW View of Inverter Appearance



4.4 Specification

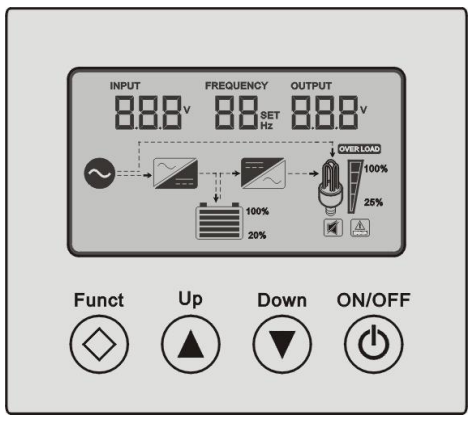
① Fan. ② AC input/output terminal. ③ AC input/output fuse holder. ④ RS232 communication interface (optional function). ⑤ Battery terminal negative input terminal. ⑥ Battery terminal positive terminal. ⑦ Earth terminal.

5. Operating Instructions

5.1 Panel LCD Display Icon Description

5.1.1 LCD Display and Function Keys Interface

They can display the inverter working status, such as input / output voltage, frequency, grid mode, inverter mode, battery capacity, load capacity, alarm warning, etc.

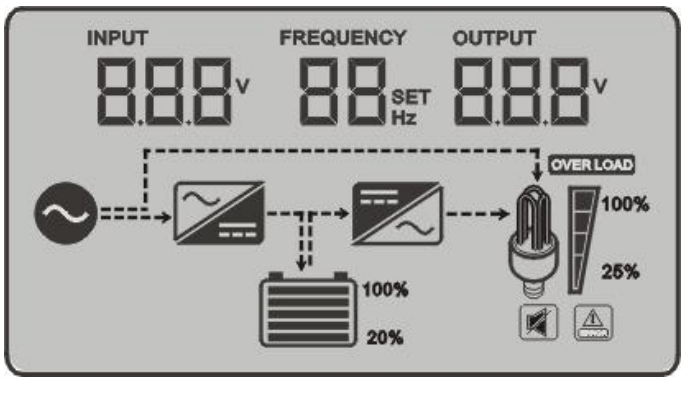


5.1.2 Keys Description

Function keys		Instruction
◇	Mute / function key	Sound attenuation with short press, enter into equipment working mode with long press.
▲	Function key / multiply key	Enter into charge current setting with long press 5s, increment with short press.
▼	Function key / reducing key	Enter into battery mode setting with long press 5s, decrement with short press.
⏻	ON / OFF	Single bond ON / OFF control.

5.1.3 LCD Display Instruction

inverter parameter instruction		
LCD display	**Function instruction**	
INPUT 888 V	AC input voltage parameter	
FREQUENCY 88 Hz	AC output frequency parameter	
OUTPUT 888 V	AC output voltage parameter	
88 SET	Equipment working mode selection	
	Grid priority mode	Battery priority mode
	01 SET	03 SET



Battery icon instruction		
LCD display	Status	Battery voltage values/12V；*A（pcs）
	Twinkle	＜10.5V；*A
	Lighten	10.5～11.2V；*A
	Lighten	11.2～11.6V；*A
	Lighten	11.6～12.1V；*A
	Lighten	12.1～12.5V；*A
	Lighten	＞12.5V；*A

Load icon instruction				
LCD display	Function instruction			
OVER LOAD	Output overload reminder			
100% 25%	0%～25%	25%～50%	50%～75%	75%～100%
	100% 25%	100% 25%	100% 25%	100% 25%

Working mode icon instruction		
LCD display	Function instruction	
	Grid input icon	
	AC-DC icon	
	DC-AC icon	
Buzzing icon instruction		
	Lighten	Prohibit buzzer tweet
	dark	Start buzzer tweet
Fault/abnormal icon instruction		
ERROR	Fault/Abnormal reminder	

5.2 Panel key / LCD Setting Instruction

<table>
<tr><th colspan="2">Function key</th><th colspan="8">Operating Instructions</th></tr>
<tr><td rowspan="11">◇</td><td>Mute key</td><td colspan="8">Long press for 1 second, buzzing 1 time, start mute state. Long press for 1 second again, buzzing 2 times, close mute stage.</td></tr>
<tr><td rowspan="3">Function key</td><td colspan="8">Long press for 5s, 01, 03 mode can be recurrent selection, it will take effect after restarting.</td></tr>
<tr><td colspan="4">Grid priority mode</td><td colspan="4">Battery priority mode</td></tr>
<tr><td colspan="4">01 SET</td><td colspan="4">03 SET</td></tr>
<tr><td rowspan="3">▲</td><td rowspan="3">Function key</td><td colspan="8">Long press for 5s，LCD panel 88 SET will display relative charge current regulation C+, press ▲ increase charge current，press ▼ decrease charge current.</td></tr>
<tr><td>C0</td><td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td colspan="2">C6</td></tr>
<tr><td>0A</td><td>5A</td><td>10A</td><td>15A</td><td>20A</td><td>25A</td><td colspan="2">30A</td></tr>
<tr><td rowspan="9">▼</td><td rowspan="9">Function key</td><td colspan="8">Long press for 5s，LCD panel 88 SET will display charge voltage regulation U+, press ▲ increase charge voltage from U0 to U7，press ▼ decrease charge voltage from U7 to U0.</td></tr>
<tr><td>U0</td><td colspan="5">Gel U.S.A</td><td colspan="2">13.7V</td></tr>
<tr><td>U1</td><td colspan="5">A.G.M.1</td><td colspan="2">13.4V</td></tr>
<tr><td>U2</td><td colspan="5">A.G.M.2</td><td colspan="2">13.7V</td></tr>
<tr><td>U3</td><td colspan="5">Sealed lead Acid</td><td colspan="2">13.6V</td></tr>
<tr><td>U4</td><td colspan="5">Gel European</td><td colspan="2">13.8V</td></tr>
<tr><td>U5</td><td colspan="5">Open lead acid</td><td colspan="2">13.8V</td></tr>
<tr><td>U6</td><td colspan="5">Calcuim(open)</td><td colspan="2">13.6V</td></tr>
<tr><td>U7</td><td colspan="7">De sulphation cycle 15.5 for 4 hrs</td></tr>
<tr><td rowspan="2">⏻</td><td rowspan="2">ON/ OFF key</td><td>Starting up</td><td colspan="7">Long press for 2s, buzzing 1 time, equipment start output</td></tr>
<tr><td>Power off</td><td colspan="7">Long press for 2s, Long press for 2, after internal relay energized, the equipment power off output.</td></tr>
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</table>

5.3 Working Mode Instruction

Icon	Working Mode	Running State
01 SET	Mains priority mode	In the mains priority mode, after the inverter is started, when the mains input is normal, the inverter provides power to the load through the mains bypass voltage stabilization and at the same time supplements the battery pack. When the mains are in the high/low/severe abnormal situations, the inverter converts the energy of the battery pack into high-quality power through an internal module and provides it to the load.
03 SET	Battery priority mode	Battery priority mode operation. When the mains input is normal and the battery pack is full, the mains is just waiting for standby. The inverter converts the battery energy into high-quality power through the internal module and provides it to the load. When the battery power drops to the low voltage threshold, the device automatically supplies power to the load through the mains bypass voltage stabilization, but it does not charge the battery pack. This mode is mainly for the design of new energy power generation systems (such as wind and solar power generation systems).

5.4 Sound Alarms Instruction

Equipment running normal	Buzzing prohibit	Buzzer is no tweet under default state.
	Buzzer starts	Buzzer tweet 4 times every 15s, indicating the inverter is operating under battery inverter state.
Battery high voltage alarm	Buzzer tweets 4 times per second, alarms high voltage.	
Battery low voltage alarm	Buzzer tweets 2 times per second, alarms low voltage.	
Over temperature alarm	Buzzer alarm 2 seconds pause 1 second.	

5.5 Precautions for Generator Connection

If you connect the generator, you need to follow the steps below to run.

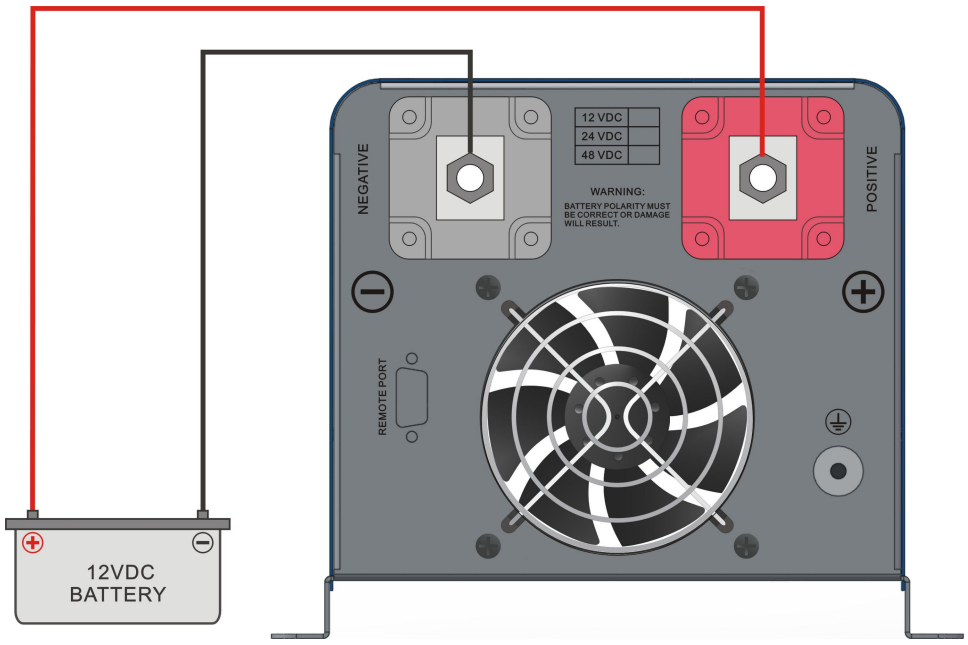
A. Start the generator and connect the output power of the generator to the input terminal of the equipment after its operation is stable. At this time, make sure that the equipment output is in the no-load state and then turn on the inverter.

B. After the inverter is turned on, connect the loads one by one.

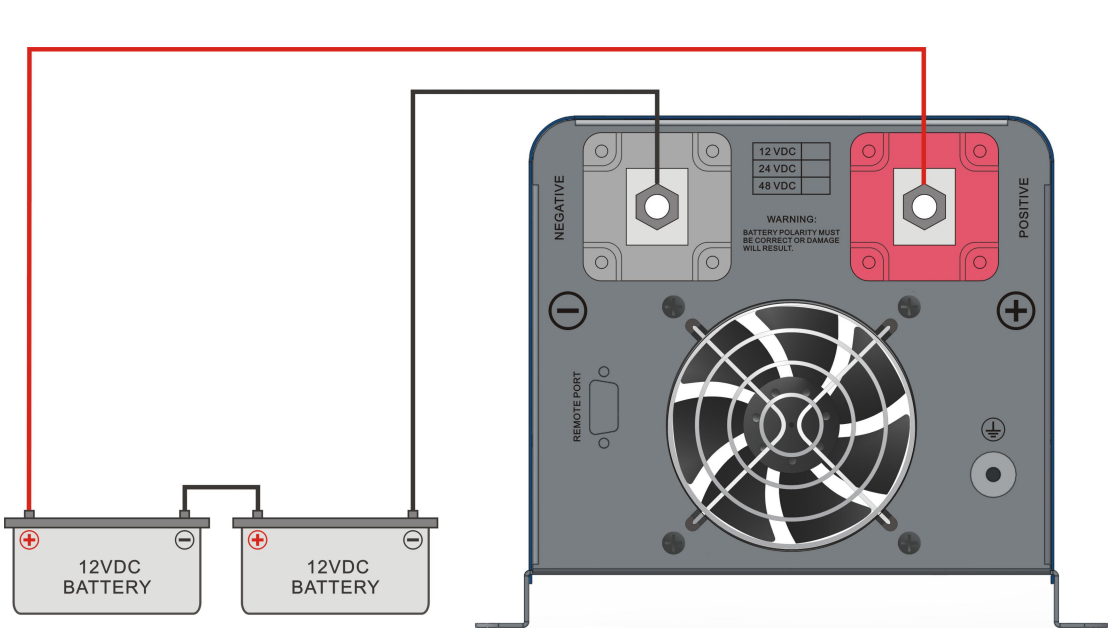
C. It is recommended to select the capacity of the generator with a capacity of 2-3 times the inverter power.

6. Equipment wiring diagram

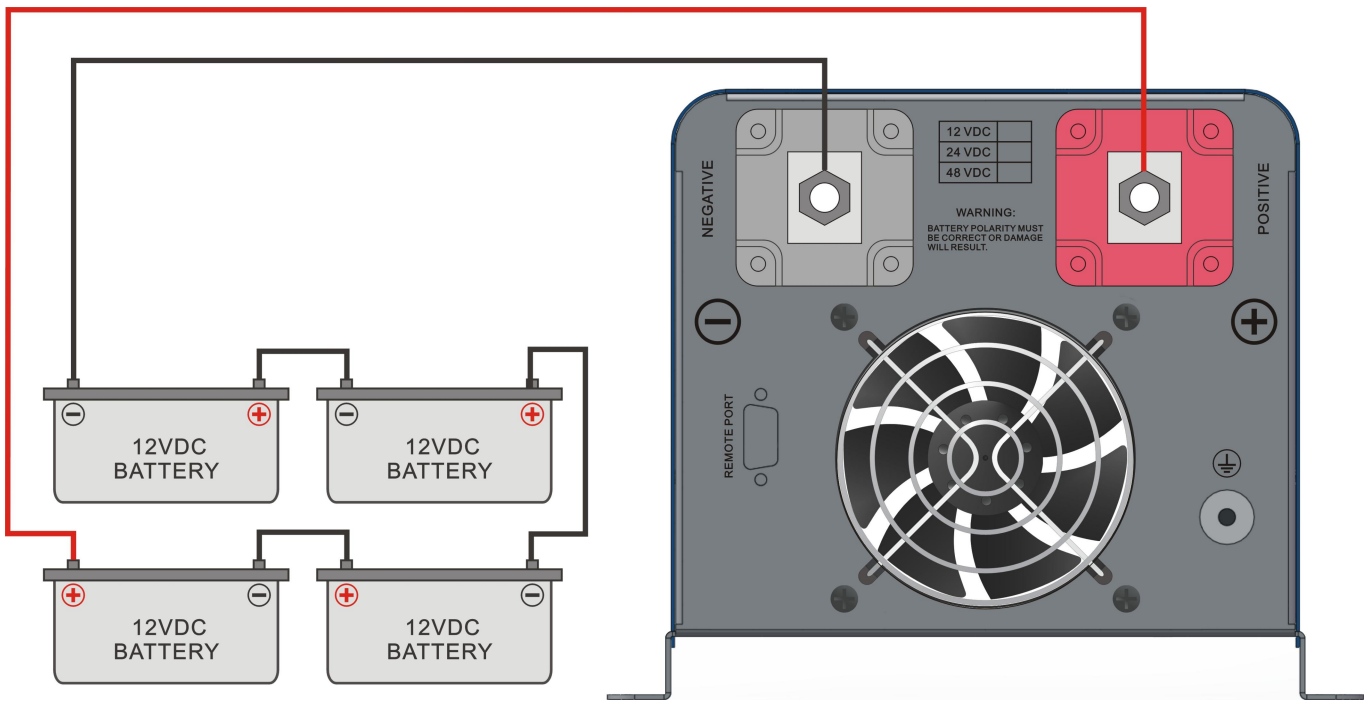
6.1 12VDC Series Battery Wiring Diagram



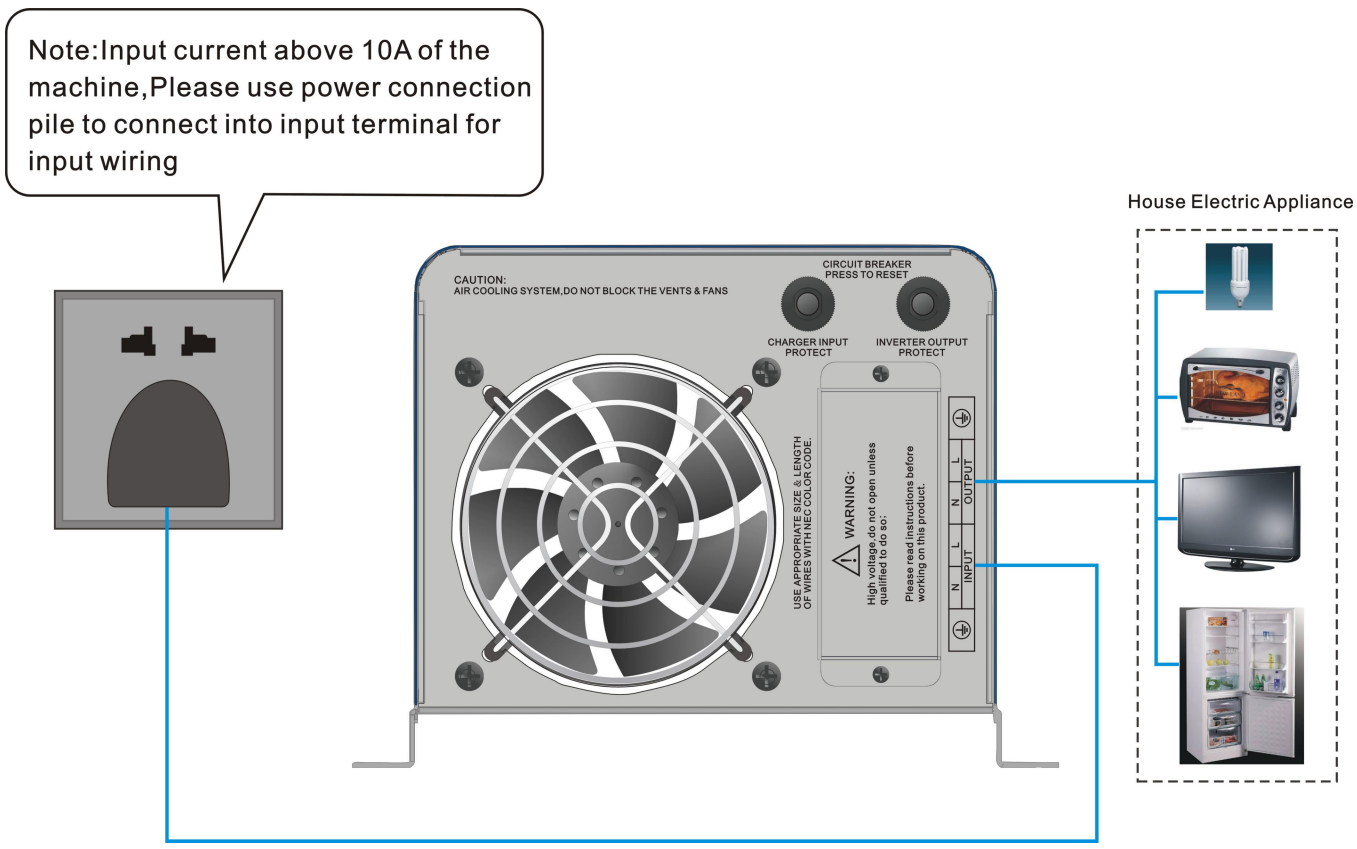
6.2 24VDC Series Battery Wiring Diagram



6.3 48V DC Series Battery Wiring Diagram（It is 8 pieces of 12V DC battery connected in series of 96V DC series battery connection）



6.4 Input/output Connection Diagram



6.5 Direction for Using of Wire Diameter

Direction for using of battery, AC input / output wire diameter. (Calculation is based on 1mm^2 copper core with 4-5A current.)

$$\text{Battery wire diameter} = \frac{\text{Rated power(W)}}{\text{Rated battery(V)} \times 5\text{A/mm}^2}$$

$$\text{AC wire diameter} = \frac{\text{Rated power(W)}}{\text{Rated AC voltage(V)} \times 5\text{A/mm}^2}$$

For example: Wire diameter of 5000W/48V DC/220V AC as below.

$$\text{Battery wire diameter} = \frac{5000\text{W}}{48\text{V} \times 5\text{A/mm}^2} \approx 20(\text{mm}^2)$$

$$\text{AC wire diameter} = \frac{5000\text{W}}{220\text{V} \times 5\text{A/mm}^2} \approx 6(\text{mm}^2)$$

7. Maintenance

7.1 This series of products requires very little maintenance and the battery only needs to be constantly charged to obtain the expected life.

7.2 f you do not use the inverter for a long time, it is recommended to charge it every 4-6 months. Under normal circumstances, the service life of the battery is 3-5 years. If it is found to be in poor condition, it must be replaced early. When replacing the battery, it must be performed by professionals. The battery should not be replaced individually and the battery instructions should be followed when replacing the battery as a whole.

7.3 Before replacing the battery, turn off the inverter, disconnect from the mains and turn off the battery switch. Take off metal objects such as rings and watches.

7.4 When connecting the battery cable, a small spark at the joint is normal and will not cause harm to personal safety and equipment. Never short-circuit or reverse-connect the positive and negative electrodes of the battery.

8. Troubleshooting

Warning: High voltage inside the device! Do not open it or do maintenance by yourself and try to do so with professionals to avoid danger!

Fault	Possible causes	Solution
No electricity.	Resettable safety seat is forced out.	Re-press the forced out part.
Loading time of the inverter reduces.	Insufficient battery charge.	Ensure that the battery is fully charged normally.
	The machine connection load is too heavy.	Remove non-critical loads.
	The battery is aging and cannot be fully charged.	Replace the battery.
The inverter cannot be turned on.	Poor connection of mains input wire or battery connection wire.	Check and reconnect.
Alarm rings when starting up.	Low battery	Ensure that the battery is fully charged normally.
	Overloaded.	Remove non-critical loads.
Buzzer beeps for 2 seconds, stop for 1 second.	High internal temperature and alarm happens.	Check if the fan and cooling holes are blocked.
The fan rotates fast and slowly sometimes.	Internal temperature is above 45℃, fan runs fast; below 42℃ fan runs slowly.	Normal phenomenon.

When you contact the maintenance personnel, please provide the following information: inverter model / date of occurrence of the problem / complete description of the problem including the display status of the relevant indicator lights, battery equipment, connection, etc.