



Pure sine wave inverter

USER MANUAL



IPT350, IPT500

IPT1000, IPT1500

IPT2000, IPT3000

IPT4000, IPT5000

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Important Safety Instructions

Please reserve this manual for future review.

This manual contains instructions on the safety, installation, and operation of the IPT series high-frequency pure sine wave inverter ("inverter" as referred to in this manual).

1. Explanation of symbols

Please read related literature accompanying the following symbols to enable users to use the product efficiently and ensure personal and property safety.

Please read the literature accompanying the following symbols.

Symbols	Definition
TIP	Indicates any practical advice for reference
	IMPORTANT: Indicates a critical tip during the operation, if ignored, may cause the device to run in error.
	CAUTION: Indicates potential hazards. If not avoided, it may cause the device to be damaged.
	WARNING: Indicates the danger of electric shock. If not avoided, it would cause casualties.
	WARNING HOT SURFACE: Indicates the risk of high temperature, if not avoided, would cause scalds.
	Read the user manual carefully before any operation.

 WARNING	The entire system should be installed by professional and technical personnel.
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2. Requirements for professional and technical personnel

- Professionally trained;
- Familiar with related safety specifications for the electrical system;
- Read this manual carefully and master related safety cautions.

3. Professional and technical personnel is allowed to do

- Install the inverter to a specified location.

- Conduct trial operations for the inverter.
- Operate and maintain the inverter.

4. Safety cautions before installation

 IMPORTANT	<p>When you receive the inverter, check whether there is any damage in transportation. Contact the transportation company, our local distributor, or our company for any problem.</p>
 CAUTION	<ul style="list-style-type: none"> • When placing or moving the inverter, follow the instructions in the manual. • When installing the inverter, evaluate whether the operation area exists arc danger. • The inverter needs to be connected to a battery. The battery's minimum capacity (Ah) is recommended to be five times the current that equals the inverter's rated output power divided by the battery's voltage.
 WARNING	<ul style="list-style-type: none"> • Keep the inverter out of the reach of children. • This inverter is an off-grid type. It is strictly prohibited to connect the inverter to the grid. Otherwise, the inverter will be damaged. • This inverter is only allowed for stand-alone operation. It is prohibited to connect multiple units in parallel or series. Otherwise, the inverter will be damaged.

5. Safety cautions for mechanical installation

 WARNING	<ul style="list-style-type: none"> • Before installation, ensure the inverter has no electrical connection. • Confirm enough heat dissipation space for the inverter before installation. Do not install the inverter in a harsh environment such as humid, salt spray, corrosion, greasy, flammable, explosive, or dust accumulation.
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6. Safety cautions for electrical connection

 CAUTION	<ul style="list-style-type: none"> • Check whether wiring connections are tight to avoid the danger of heat accumulation due to loose connections. • The protective grounding is connected to the ground. The cross-section of the wire should not be less than 4mm². • The DC input voltage must strictly follow the parameter table. Too high or too low DC input voltage will affect the inverter's normal operation and damage it.
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	<ul style="list-style-type: none"> • It is recommended that the connection length between the battery and the inverter be less than 3 meters. If greater than 3 meters, please reduce the current density of the connection wire. • A fast-acting fuse or breaker should be used between battery and Inverter; the fast-acting fuse or breaker's rated current should be twice the inverter rated input current. • DO NOT install the inverter close to the flooded lead-acid battery because the terminals' sparkle may ignite the hydrogen released by the battery.
 WARNING	<ul style="list-style-type: none"> • The AC output terminal is only for the load connection. Do NOT connect it to another power source or utility. Otherwise, the inverter will be damaged. Turn off the inverter when connecting loads. • It is strictly forbidden to connect a transformer or a load with a surge power (VA) exceeding the overload power at the AC output port. Otherwise, the damage will be caused to the inverter. • Do not connect battery chargers or other similar products to the input terminal of the inverter. Otherwise, the inverter will be damaged.

7. Safety cautions for controller operation

 WARNING HOT SURFACE	<p>When the inverter is working, the cover temperature is very high because of the accumulated heat; please do not touch it.</p>
 CAUTION	<p>When the inverter is running, please do not open the cabinet.</p>
 WARNING	<p>The inverter's AC output is of high voltage, do not touch the wiring connection to avoid electric shock.</p>

8. Dangerous operations which would cause an electric arc, fire, or explosion

- Touch the wire end that hasn't been insulation treated and may be electriferous.
- Touch the wiring copper row, terminals, or internal inverter modules that may be electriferous.
- The connection of the power cable is loose.
- Screw or other spare parts inadvertently falls into the inverter.
- Improper operations by untrained non-professional or technical personnel.



WARNING

Once an accident occurs, it must be handled by professional and technical personnel. Improper operations would cause more serious accidents.

9. Safety cautions for stopping the inverter

- The internal conductive modules could be touched after the inverter stopped running for five minutes.
- The inverter is allowed to restart after removing the faults, which affects the safety performance.
- There are no serviceable parts inside. If any maintenance service is required, please contact our local distributor or the service personnel.



WARNING

Do NOT touch or open the shell after the inverter is powered off within ten minutes.

10. Safety cautions for inverter maintenance

- It is recommended to check the inverter with testing equipment to ensure no voltage and current.
- When conducting electrical connection and maintenance, post a temporary warning sign or put up barriers to prevent the unrelated personnel from entering the electrical connection or maintenance area.
- An improper operation of the inverter may cause personal injury or equipment damage.
- It is recommended to wear an antistatic wrist strap or avoid unnecessary contact with the circuit board.