



## ***NPower Series***

**——Pure Sine Wave Inverter**

# **User Manual**





# Contents

Important Safety Instructions.....	1
1. Overview .....	6
2.Characteristics .....	8
3.Designations of models .....	13
4. Schematic diagram for connections .....	14
5.Installation instructions .....	15
5.1 General installation notes.....	15
5.2Wire size &breaker.....	15
5.3 Mounting .....	16
6. Protection .....	21
7. Troubleshooting.....	23
8. Maintenance.....	24
9. Technical Specifications .....	25
Annex I Disclaimer.....	36

# Important Safety Instructions

## Please reserve this manual for future review.

This manual contains all the instructions about safety, installation, and operation for NPower series pure sine wave inverter (hereinafter referred to as the inverter).

### 1. Explanation of symbols

To enable the user to use the product efficiently, as well as to ensure personal and property safety, this manual provides related information and emphasize the following symbols.

Please read the related words carefully when you encounter the following symbols in the manual.

#### **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, may cause the device damaged.



#### **WARNING:**

Indicates the danger of electric shock, if not avoided, 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.**

## 2. Requirements for professional and technical personnel

- ✓ Professionally trained;
- ✓ Familiar with related safety specification for the electrical system;
- ✓ Read the entire user manual to get related safety cautions.

## 3. Professional and technical personnel is allowed to do

- ✓ Install the inverter to the specified location;
- ✓ Test-run before installation;
- ✓ Operate and maintain the inverter.

## 4. General installation notes



**IMPORTANT::** When receiving the inverter, please firstly check if there is any damage occurred in transportation, if find any problem, please contact the transportation company or our company in time.



**CAUTION:** Follow the instructions before placing or moving the inverter.



**CAUTION:** Make sure there isn't any arc danger in the operation area before installation.



**CAUTION:** Inverter input is recommended to connect to battery, the minimum capacity of battery (expressed in AH) should be calculated in the following way: 5 times of the rated power of the inverter/battery voltage.



**WARNING:** Keep the inverter out of children touch.



**WARNING:** It's an off-grid inverter, do not connect the AC output terminals to the utility or electrical source, otherwise the inverter may be damaged.



**WARNING:** The inverter can be used singly, parallel connection or in series will damage the inverters.

## 5. Safety cautions for mechanical installation



**WARNING:** Before installation, must make sure the inverter has no electrical connection.



**WARNING:** Ensure the heat dissipation space for the inverter installation, and do not install the inverter in humid, greasy, flammable, explosive, dust accumulative or other severe environments.

## 6. Safety cautions for electrical connection



**CAUTION:** Check if all the wiring connections are tight, to avoid the danger of heat accumulation due to a loose connection.



**CAUTION:** The protective grounding must be connected to the ground. The cross-section of the wire should not be less than  $4\text{mm}^2$ .



**CAUTION:** Connect the DC input according to the requirement strictly. The power inverter has a relatively wide input range, but too high or too low input may cause problems even destroy the inverter.



**CAUTION:** The wire connects between battery and inverter should be shorter than 3m, the current density should be less than  $5\text{A}/\text{mm}^2$  while the output of the inverter is fully loaded. If the wire is longer than 3m, the current density should be reduced.



**CAUTION:** A fuse or breaker should be used between battery and inverter; the value of fuse or breaker should be twice of the inverter rated input current.



**CAUTION:** DO NOT put the inverter close to the flooded lead-acid battery because the sparkle in the terminals may ignite the hydrogen released by the battery.



**WARNING:** The output is forbidden to connect other power sources or utility, otherwise the inverter will be damaged. The inverter must be in off, when connecting load.



**WARNING:** Do not directly connect the battery charger or similar devices to the input terminal of inverter.

## 7. Safety cautions for inverter operation



**WARNING HOT SURFACE:** Do not touch it when the inverter is working, its surface may become very hot. Keep away from the material or device which may suffer from high temperature.



**CAUTION:** Do not open the inverter to operate when it is working.



**WARNING:** The AC output with high voltage during the inverter operation, so do NOT touch the connection point, it may cause danger.

## 8. The dangerous operations which would cause electric arc, fire or explosion

- Touch the wire end which hasn't been insulation treated may cause electriferous.
- Touch the wiring copper row, terminals or internal devices which may cause electriferous.
- Power cable connection is loose.
- Screw or other spare parts inadvertently falls into the inverter.
- Incorrect operation by untrained non-professional or technical personnel.



**WARNING:** Once an accident occurs, must be handled by professional and technical personnel. Any incorrect operation would cause a more serious accident.

## 9. Safety cautions for stopping the inverter

- After the inverter stop working for ten minutes, the internal conductive devices could be touched.
- The inverter can be restarted after removing the faults, which may affect its safety performance.
- No maintenance parts in the inverter, if any maintenance service is required, please contact our after-sales service personnel.



**WARNING:** Do NOT touch or open the case after the device powered off within ten mins.

## **10. Safety cautions for inverter maintenance**

- Testing equipment is recommended to check the inverter without voltage or current;
- When conducting electrical connection and maintenance work, must post temporary warning sign or put up barriers, to prevent unrelated personnel from entering the electrical connection or maintenance area.
- Improper maintenance operation to the inverter may cause personal injury or equipment damage.
- To prevent electrostatic damage, recommend to wear antistatic wrist strap or avoid unnecessary contact with the circuit board.



# 1. Overview

NPower series is a kind of pure sine wave inverter which can convert 12/24/48VDC to 220/230Vac. It is based on full digital and intelligent design, it adopts the advanced SPWM technology, voltage and current double closed-loop controlled and completely isolated inverter technology, such as to ensure the product with high quality electrical parameters, the stronger ability to resist impact load, the input surge prevention design at the same time. meet the special requirements of lithium battery surge limit, to ensure the safety and function of the inverter running and reliable.

The case is designed with galvanized board, which has the advantages of high strength and corrosion resistance.

This product has the characteristics of high reliability, high efficiency, simple appearance, complete protection function, easy installation and easy operation. It is suitable for AC load of household appliances, power tools, industrial equipment, electronic audio and video and solar photovoltaic power generation system, such as vehicle inverter application system, solar RV, solar household, solar yacht and solar power station.

## Features:

- Adoption of advanced SPWM technology, pure sine wave output
- Adopt voltage and current double closed-loop control to enhance the load capacity
- The input and output adopt completely isolated inverter technology with high reliability
- The input adopts anti-surge design to meet the special requirements of surge limitation of the lithium battery and avoid dangerous surge current generated by connection of startup.
- Low output harmonic distortion ( $THD \leq 3\%$ )
- The AC output adopts excellent EMC design to prevent interference of connected equipment
- Output voltage 220/230VAC and frequency 50/60Hz optional
- Extensive protections: input reverse polarity, input overvoltage, input low voltage, output overload and short circuit, overheating.

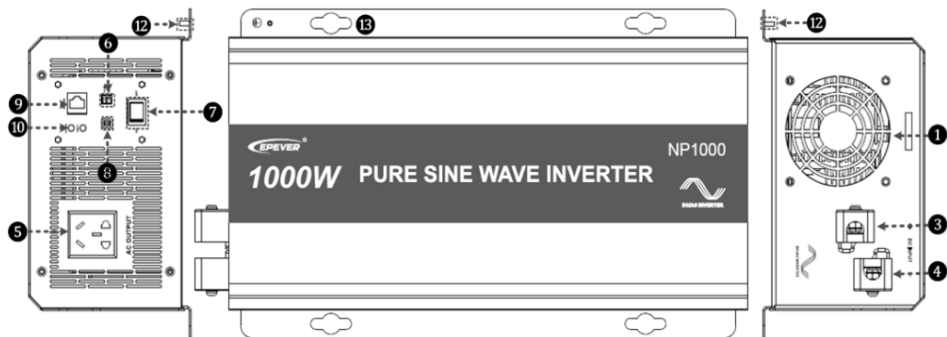
- OperRS485 port can connect the communication module, realize remote start/stop inverter and monitor the running status via the APP or PC software.

Set the input low voltage and low voltage reconnect voltage via the APP or PC software

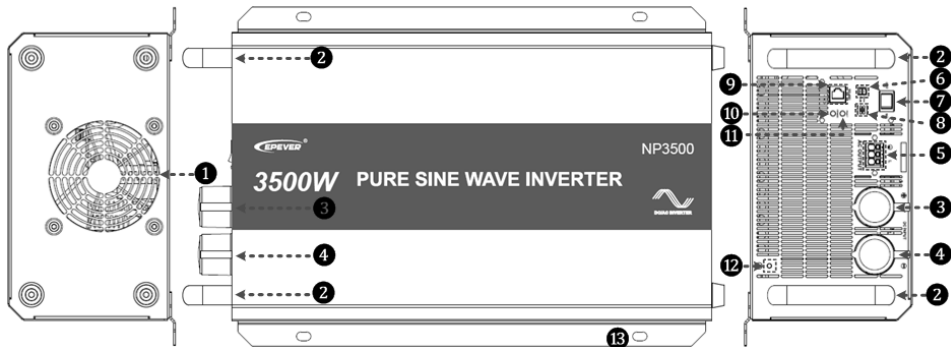
- Set the inverter's ID via the APP or PC software to monitor several inverters.
- The case is designed with the galvanized board, with high strength and strong corrosion resistance
- Chinese dual socket, Australia/New Zealand, European, Universal, Terminal selectable
- The remote meter is selectable
- Easy maintenance and repair

## 2.Characteristics

1)NP260~NP1200



2)NP1500~NP3500



①	Ventilation fan <sup>(1)</sup>	⑧	Mode switch <sup>(3)</sup>
②	Handle	⑨	RS485 communication port <sup>(4)</sup>
③	DC input terminal positive	⑩	Working indicator(green) <sup>(5)</sup>
④	DC input terminal negative	⑪	Fault indicator(red) <sup>(5)</sup>
⑤	AC outlet <sup>(2)</sup>	⑫	Grounding terminal
⑥	External switch connection point	⑬	Mounting hole size
⑦	AC output switch		

### (1) Ventilation fan

- The cooling fan will be automatically turned on if the inverter could reach any condition down below.

1)Heat sink temperature is higher than 45℃

2)Internal temperature is higher than 45℃

3)The output power is higher than same power, see the below table: .

Models	Instruction
NP260-12(X); NP260-22(X) NP400-12(X); NP400-22(X) NP600-12(X); NP600-22(X) NP800-12(X) NP1000-22(X) NP1200-12(X); NP1200-22(X)	Internal temperature is higher than 10℃, and the output power is higher than half of the continues output power of 25℃.
NP2000-42(T) NP2500-22(T) NP3000-22(T);NP3000-42(T) NP3500-42(T)	nternal temperature is higher than 10℃, and the output power is higher than 1000W

“X” is C-chinese dual socket, A-Australia/New Zealand, E-European, M-Universal.

- The cooling fan will be automatically turned off when the inverter reaches all the conditions down below.

1)Heat sink temperature is lower than40℃

2)Internal temperature is lower than 40℃

3) The output power is lower than same power, see the below table:

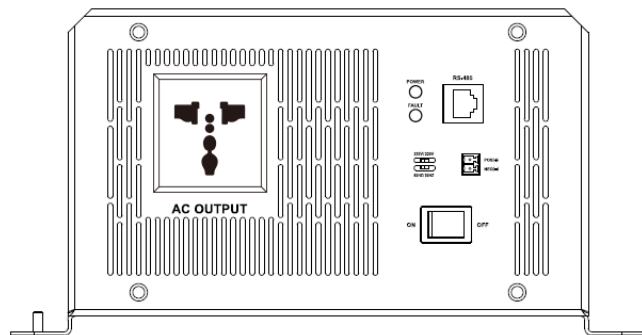
Models	Instruction
NP260-12(X); NP260-22(X)	The output power is lower than 80W
NP400-12(X); NP400-22(X)	The output power is lower than 150W

NP600-12(X); NP600-22(X)	The output power is lower than 200W
NP800-12(X)	The output power is lower than 300W
NP1000-22(X)	The output power is lower than 400W
NP1200-12(X); NP1200-22(X)	The output power is lower than 500W
NP2000-42(T) NP2500-22(T) NP3000-22(T);NP3000-42(T) NP3500-42(T)	The output power is lower than 800W

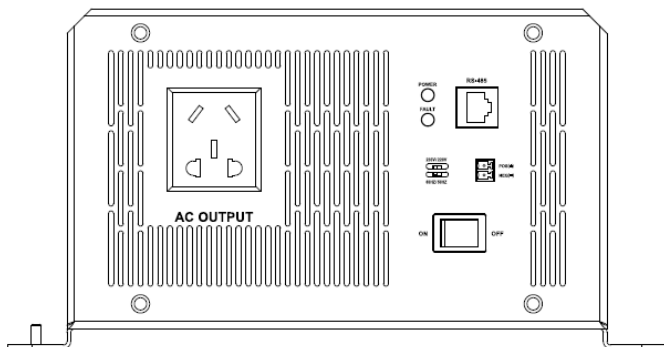
“X” is C-chinese dual socket, A-Australia/New Zealand, E-European, M-Universal.

## (2) AC outlet

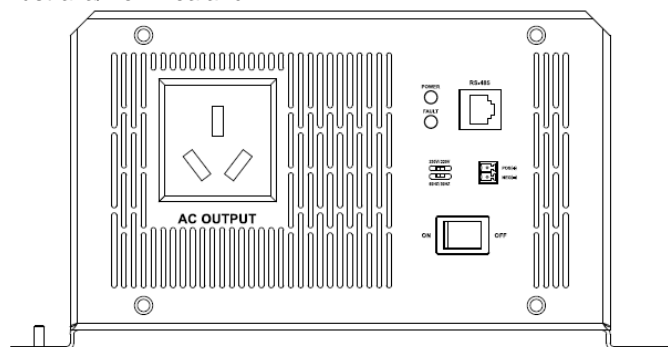
Universal:



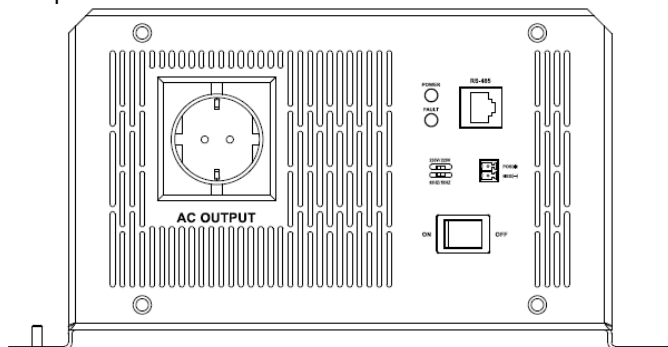
Chinese dual socket:



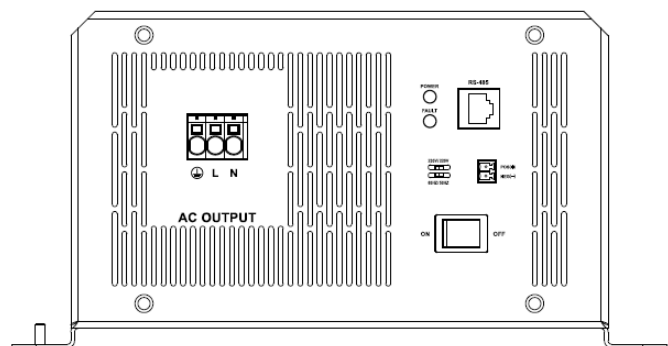
Australia/New Zealand:



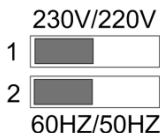
European:



Terminal:



**(3)Mode switch**



When the switch of number 1 is on the 230V side, the output voltage is 230VAC, otherwise is 220VAC.

When the switch of number 2 is on the 60Hz side, the output frequency is 60Hz, otherwise is 50Hz.

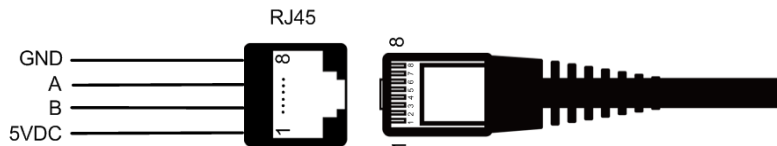


**CAUTION: Both the output frequency and voltage change availability after restarting the inverter.**



**WARNING: DO NOT turn ON/OFF the mode switch when the inverter is working.**

#### (4)RS485 communication port



The RJ45 port pin definition is shown below:

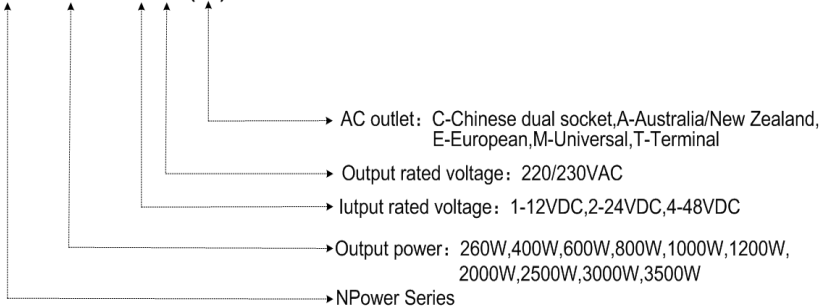
1	5VDC	5	RS-485-A
2	5VDC	6	RS-485-A
3	RS-485-B	7	GND
4	RS-485-B	8	GND

#### (5)LED indicator and buzzer

Working indicator	Fault indicator	Buzzer	Status
Greensuper flashing	Red off	No sounding	Standby
Green on solid	Red off	No sounding	Output is normal
Green slowly flashing	Red off	Sounding	Input under voltage
Green fast flashing	Red off	Sounding	Input over voltage
Green on solid	Red on solid	Sounding	Over temperature
Green off	Red fast flashing	Sounding	load short circuit
Green on solid	Red slowly flashing	Sounding	Overload
Green off	Red off	Sounding	Output voltage abnormal

### 3.Designations of models

NP 1200 - 2 2 (C)



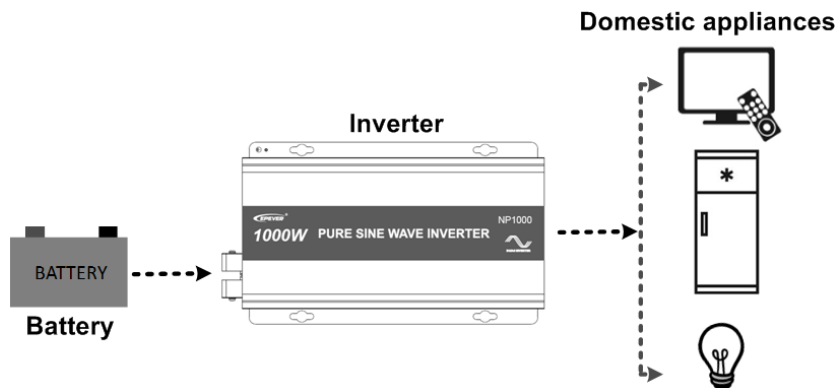
Models	Input rated voltage	Output rated voltage	Output power
NP260-12(X)	12VDC	220/230VAC	260W
NP260-22(X)	24VDC		260W
NP400-12(X)	12VDC		400W
NP400-22(X)	24VDC		400W
NP600-12(X)	12VDC		600W
NP600-22(X)	24VDC		600W
NP800-12(X)	12VDC		800W
NP1000-22(X)	24VDC		1000W
NP1200-12(X)	12VDC		1200W
NP1200-22(X)	24VDC		1200W
NP2000-42(T)	48VDC		2000W
NP2500-22(T)	24VDC		2500W
NP3000-22(T)	24VDC		3000W
NP3000-42(T)	48VDC		3000W
NP3500-42(T)	48VDC	3500W	

“X” is C-chinese dual socket, A-Australia/New Zealand, E-European, M-Universal.



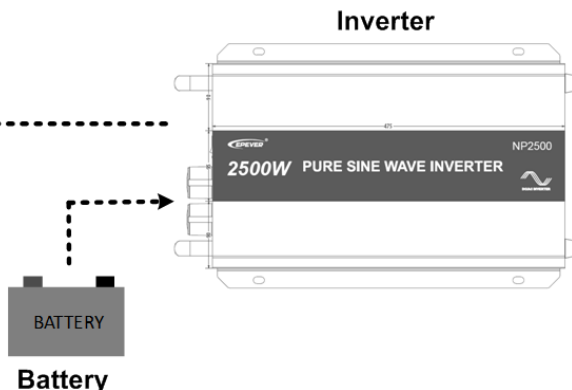
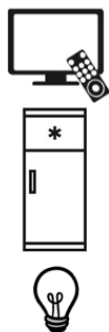
## 4. Schematic diagram for connections

1) NP260~NP1200



2) NP1500~NP3500

Domestic appliances



**CAUTION:** Connect the DC input directly to the battery port is recommended, DO NOT connect to the battery terminal of the controller. Otherwise, the charging frequency spikes of the controller may lead to over-voltage protection of the inverter.

# 5. Installation instructions

## 5.1 General installation notes

- Please read the manual carefully to get familiar with the installation steps before installation.
- Be very careful when installing the batteries, especially flooded lead-acid battery. Please wear eye protection, and have fresh water available to rinse if any contact with battery acid.
- Keep the battery away from any metal objects, which may cause a short circuit of the battery.
- Loose connections and corroded wires may result in high heat that can melt wire insulation, burn surrounding materials, or even cause a fire. Ensure tight connections and use cable clamps to secure cables and prevent them from swaying in motion.
- Select the system connection cables according to the current density no higher than 5A/mm<sup>2</sup>. (In accordance with the National Electrical Code Article 690, NFPA70).
- For outdoor installation, keep out of the direct sunshine and rain infiltration.
- High voltage still exists inside the inverter after turning off the switch, do not open or touch the internal devices, wait ten minutes before conducting related operations.
- Please do not install the inverter in humid, greasy, flammable, explosive, dust accumulative or other severe environments.
- AC output is high voltage, please do not touch the wiring connection.
- When the fan is working, please do not touch it to avoid injury.

## 5.2 Wire size & breaker

Wiring and installation mode should comply with national and local electrical code requirements.

### ➤ Wire, terminals and breaker selection for battery

Models	Battery wire size	Terminal	Breaker
NP260-12(X)	6mm <sup>2</sup> /10AWG	RNB5.5-6	DC/2P—40A
NP260-22(X)	4mm <sup>2</sup> /12AWG	RNB5.5-6	DC/2P—20A

NP400-12(X)	10mm <sup>2</sup> /8AWG	RNB8-6S	DC/2P—63A
NP400-22(X)	6mm <sup>2</sup> /10AWG	RNB5.5-6	DC/2P—32A
NP600-12(X)	16mm <sup>2</sup> /6AWG	RNB14-8	DC/2P—80A
NP600-22(X)	6mm <sup>2</sup> /10AWG	RNB8-8	DC/2P—40A
NP800-12(X)	25mm <sup>2</sup> /4AWG	RNB22-6L	DC/2P—125A
NP1000-22(X)	16mm <sup>2</sup> /6AWG	RNB14-6L	DC/2P—63A
NP1200-12(X)	25mm <sup>2</sup> /4AWG	RNB22-6L	DC/2P—125A
NP1200-22(X)	16mm <sup>2</sup> /6AWG	RNB14-6L	DC/2P—63A
NP2000-42(T)	16mm <sup>2</sup> /6AWG	RNB14-10	DC/2P—63A
NP2500-22(T)	35mm <sup>2</sup> /2AWG	RNB38-10	DC—100A (2P in parallel)
NP3000-22(T)	50mm <sup>2</sup> /1/0AWG	RNB38-10	DC—100A (2P in parallel)
NP3000-42(T)	25mm <sup>2</sup> /4AWG	RNB22-10	DC/2P—100A
NP3500-42(T)	25mm <sup>2</sup> /4AWG	RNB22-10	DC/2P—125A

“X” is C-chinese dual socket, A-Australia/New Zealand, E-European, M-Universal.

➤ **Wire and breaker selection for AC output**

Models	Wire size	Breaker
NP2000-42(T)	1.5mm <sup>2</sup> /16AWG	AC/2P—10A
NP2500-22(T)	2.5mm <sup>2</sup> /14AWG	AC/2P—10A
NP3000-22(T)	2.5mm <sup>2</sup> /14AWG	AC/2P—16A
NP3000-42(T)	2.5mm <sup>2</sup> /14AWG	AC/2P—16A
NP3500-42(T)	2.5mm <sup>2</sup> /14AWG	AC/2P—16A



**IMPORTANT:** The wire size and terminal are for reference only, use thicker wires to lower the voltage drop and improve the system performance when the distance between inverter and batter is far.



**IMPORTANT:** The above wire size and circuit breaker size are for recommendation only, please choose suitable wire and circuit breaker according to the practical situation.

## 5.3 Mounting

### Installation steps:

**Step1:** Professional personnel read this manual carefully.

**Step2:** Determination of installation location and heat-dissipation space.

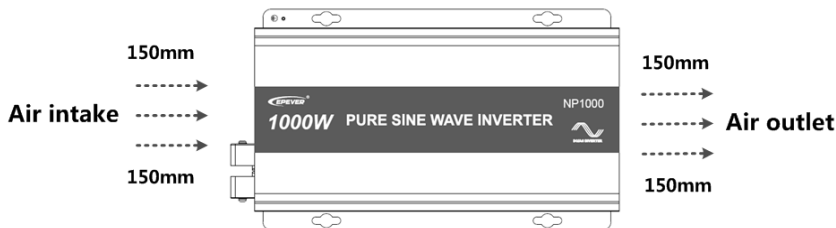


**Important:**The inverter shall be installed in a place with sufficient air flow through the dissipation pad of the inverter and a minimum clearance of 150mm from the upper and lower edges of inverter to ensure natural thermal convection.

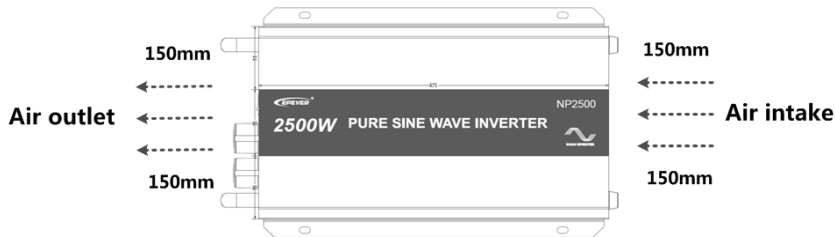


**CAUTION:**The inverter shall be cooling through housing if installed in a closed box.

1) NP260~NP1200



2) NP1500~NP3500



### Step3: Wiring



**WARNING:** The AC equipment shall be determined by the continuous output power of the inverter, but the surge power must be lower than the instantaneous surge power of the inverter.



**CAUTION:**The switch of inverter is OFF before wiring.



**CAUTION:** DONOT close the circuit breaker or fuse and make sure that the leads of "+" and "-" poles are connected correctly while wiring the inverter.

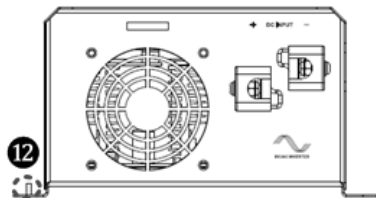


**CAUTION:**A fuse which current is 1.25 to 2 times the rated current of the inverter, must be installed on the battery side with a distance from the battery not greater than 150mm.

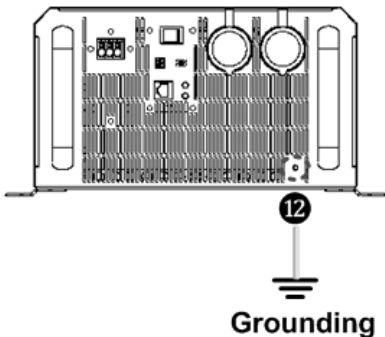
Wiring order:

① Ground

1.NP260~NP1200

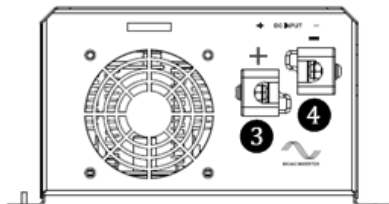


2.NP1500~NP3500

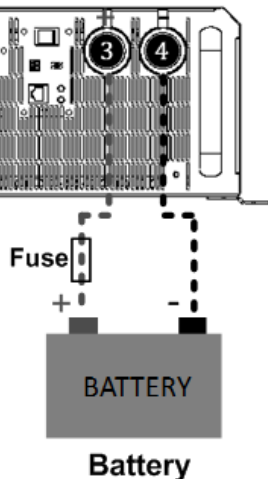


② Battery

1.NP260~NP1200

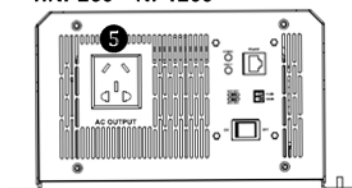


2.NP1500~NP3500

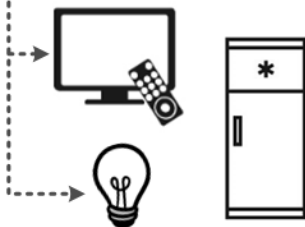
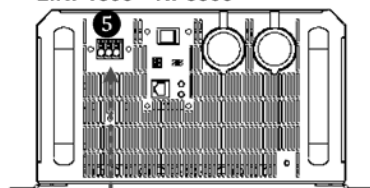


### 3 AC loads

1.NP260~NP1200



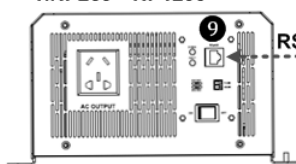
2.NP1500~NP3500



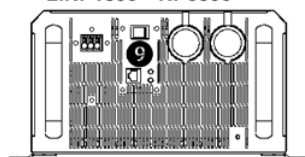
Domestic appliances

### 4 Accessories

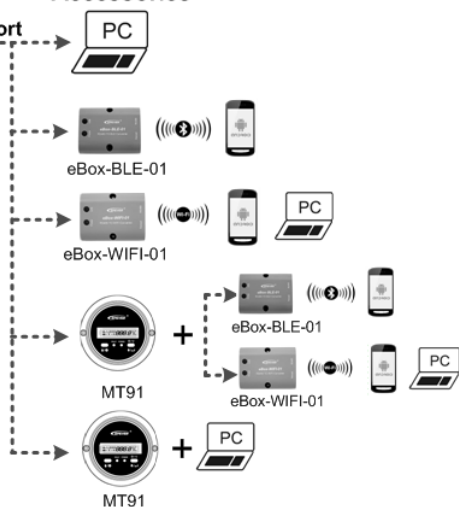
1.NP260~NP1200



2.NP1500~NP3500



Accessories



**CAUTION:** Disconnect the system in the reverse order 4 3 2 1.

#### **Step4: Power on the inverter**

- (1) Switch on the input breaker or the fuse between inverter and battery.
- (2) Turn on the power switch to start the inverter, green indicator on solid and the AC output is normal.
- (3) Turn on the load one by one, and check the operation status of both inverter and load.



**CAUTION:** If there are different types of loads, it is suggested that turn on the loads with higher startup current first, such as television, then after the loads work stably, turn on the loads with lower startup current, such as an incandescent lamp.

- (4) If the fault indicator is red and the buzzer alarms when turn on the inverter, please switch off the loads and inverter immediately. Refer to **chapter 7 Troubleshooting**.After troubleshooting, please follow above steps and operate again..

## 6. Protection

### 1) Input reverse polarity protection

The electronic circuit works to protect the inverter from damage while input reverse polarity. And the inverter will get right while the input is right.

### 2) Input overvoltage protection

- Input overvoltage protection

Models	Protection value	Default	User-defined	Phenomenon
NP***-1*	$16V < U_i < 16.2V$	16V	15.5~16.2V	The output is OFF after 5s Green indicator fast flashing Buzzer sounds
NP***-2*	$32V < U_i < 32.2V$	32V	31~32.2V	
NP***-4*	$64V < U_i < 64.4V$	64V	62~64.4V	
NP***-1*	$U_i \geq 16.2V$	—	—	The output is OFF immediately Green indicator fast flashing Buzzer sounds
NP***-2*	$U_i \geq 32.2V$	—	—	
NP***-4*	$U_i \geq 64.4V$	—	—	

- Input overvoltage recover protection

Models	Recover value	Default	User-defined	Phenomenon
NP***-1*	$U_i \leq 14.5V$	14.5V	14~15V	Green indicator on solid Output is ON
NP***-2*	$U_i \leq 29V$	29V	28~30V	
NP***-4*	$U_i \leq 58V$	58V	56~60V	

### 3) Low voltage protection

- Low voltage protection

Models	Protection value	Default	User-defined	Phenomenon
NP***-1*	$10.5V < U_i < 10.8V$	10.8V	10.5~11.3V	The output is OFF after 5s Green indicator slowly flashing Buzzer sounds
NP***-2*	$21V < U_i < 21.6V$	21.6V	21~22.6V	
NP***-4*	$42V < U_i < 43.2V$	43.2V	42~45.2V	
NP***-1*	$U_i \leq 10.8V$	—	—	The output is OFF immediately Green indicator slowly flashing Buzzer sounds
NP***-2*	$U_i \leq 21.6V$	—	—	
NP***-4*	$U_i \leq 32.2V$	—	—	



- Low voltage recover protection

Models	Recover value	Default	User-defined	Phenomenon
NP***-1*	$U_i \geq 12.5V$	12.5V	12~13V	Green indicator on solid Output is ON
NP***-2*	$U_i \geq 25V$	25V	24~26V	
NP***-4*	$U_i \geq 50V$	50V	48~52V	

#### 4) Overload protection

$S = 1.25P_e$ ① (S: Output power; $P_e$ : Rated power)	The output is OFF after the 60s Red indicator slowly flashing Buzzer sounds
$S = 1.5P_e$ ① (S: Output power; $P_e$ : Rated power)	The output is OFF after 10s Red indicator slowly flashing Buzzer sounds
$S = 1.8P_e$ ① (S: Output power; $P_e$ : Rated power)	The output is OFF after 3s Red indicator slowly flashing Buzzer sounds

① When the overload protection is activated, the AC output would auto-recover for three times (the first time delay 5s, the second time delays for 10s and the third time delays for 15s). After then the AC output would not auto-recover after restarting the inverter.

#### 5) Load short circuit protection

Phenomenon	Instruction
The output is OFF immediately Red indicator slowly flashing Buzzer sounds	When the load short circuit protection is activated, the AC output would auto-recover for three times (the first time delay 5s, the second time delays for 10s and the third time delays for 15s). After then the AC output would not auto-recover after restarting the inverter.

#### 6) OverTemperature Protection

Phenomenon	Instruction
Inverter turns OFF	The heat sink or internal temperature is higher than some value.
Inverter turns ON	The heat sink or internal temperature is lower than some value.

## 7. Troubleshooting



**WARNING:DO NOT try to repair or maintain the inverter by yourself, it may cause danger.**

Phenomenon	Possible reasons	Troubleshooting
Green indicator slowly flashing Buzzer sounds	DC input voltage under voltage	Measure the DC input voltage if the voltage is lower than 10.8/21.6/43.2V. Adjust the input voltage to restore normally.
Green indicator fast flashing Buzzer sounds	DC input voltage overvoltage	Measure the DC input voltage if the voltage is lower than 16/32/64V. Adjust the input voltage to restore normally.
Red indicator slowly flashing Buzzer sounds	Overload	<ul style="list-style-type: none"><li>• Reduce the number of the AC load</li><li>• Restart the inverter</li></ul>
Red indicator fast flashing Buzzer sounds	Short circuit	<ul style="list-style-type: none"><li>• Check carefully loads connection, clear the fault.</li><li>• Restart the inverter</li></ul>
Red and green indicator on solid Buzzer sounds	Over temperature	Improve ventilation quality, do NOT block the vent, reduce the temperature around the power supply, restart the device after the temperature drops, if still not working, please derate the power for use.

## 8. Maintenance

The following inspections and maintenance tasks are recommended at least two times per year for the best performance.

- Make sure no block on air-flow around the inverter. Clear up any dirt and fragments on the radiator.
- Check all the naked wires to make sure insulation is not damaged for serious solarization. Frictional wear, dryness, insects or rats, etc. Repair or replace some wires if necessary.
- Check and confirm that indicator and display is consistent with required. Pay attention to any troubleshooting or error indication .Take corrective action if necessary.
- Confirm that all the terminals have no corrosion, insulation damaged, high temperature or burnt/discolored sign, tighten terminal screws to the suggested torque.
- Check for dirt, nesting insects and corrosion. If so, clear up in time.
- Check and confirm that lightning arrester is in good condition. Replace a new one in time to avoid damaging the inverter/charger and even other equipment.



**WARNING: Risk of electric shock!**

Risk of electric shock! Before the above operations, make sure that all the power is turned off, and the electricity in the capacitances is completely discharged, then follow the corresponding inspections and operations.

## 9. Technical Specifications

Item	NP260-12	NP260-22
Output Continuous Power	260W@25℃; 260W@45℃	
Surge Power	400W	
Output Voltage	220/230VAC(-8%~+3%)	220/230VAC(±3%)
Output Frequency	50/60±0.2%	
Output Wave	Pure Sine Wave	
Output distortion THD	THD≤3%(Resistive load)	
Load Power Factor	0.2~1(VA≤Continuous output power)	
Rated input voltage	12VDC	24VDC
Input voltage range	10.8~16VDC	21.6~32VDC
output efficiency of80% rated power <sup>①</sup>	81%	84%
Max. Rated Efficiency <sup>②</sup>	79%	82%
Max. Efficiency	89%(80W)	90%(100W)
No-load Current	<0.4A	<0.3A
Rs485 Com. Port	5VDC/200mA	
<b>Environmental parameters</b>		
Binding Post	M6	
Overall dimension	365×212×97mm(L×W×H)	
Mounting Dimension	220×193mm	
Mounting hole size	φ7mm	
Weight	6.4kg	6.3kg

① Load power is 80% continuous output power(25℃)

② Load power is continuous output power (25℃)

Item	NP400-12	NP400-22
Output Continuous Power	400W @25℃; 350W @45℃	
Surge Power	700W	
Output Voltage	220/230VAC(-8%~+3%)	220/230VAC(±3%)
Output Frequency	50/60±0.2%	
Output Wave	Pure Sine Wave	
Output distortion THD	THD≤3%(Resistive load)	
Load Power Factor	0.2~1(VA≤Continuous output power)	
Rated input voltage	12VDC	24VDC
Input voltage range	10.8~16VDC	21.6~32VDC
output efficiency of 80% rated power <sup>①</sup>	81%	85%
Max. Rated Efficiency <sup>②</sup>	79%	84%
Max. Efficiency	90%(100W)	91%(100W)
No-load Current	<0.5A	<0.3A
Rs485 Com. Port	5VDC/200mA	
<b>Environmental parameters</b>		
Binding Post	M6	
Overall dimension	386×215×99mm	
Mounting Dimension	230×196mm	
Mounting hole size	φ7mm	
Weight	6.3kg	7.9kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

Item	NP600-12	NP600-22
Output Continuous Power	600W@25℃; 500W@45℃	
Surge Power	1000W	
Output Voltage	220/230VAC(-8%~+3%)	220/230VAC(±3%)
Output Frequency	50/60±0.2%	
Output Wave	Pure Sine Wave	
Output distortion THD	THD≤3%(Resistive load)	
Load Power Factor	0.2~1(VA≤Continuous output power)	
Rated input voltage	12VDC	24VDC
Input voltage range	10.8~16VDC	21.6~32VDC
output efficiency of 80% rated power <sup>①</sup>	81%	85%
Max. Rated Efficiency <sup>②</sup>	80%	83%
Max. Efficiency	89%(200W)	92%(160W)
No-load Current	<0.6A	<0.4A
Rs485 Com. Port	5VDC/200mA	
<b>Environmental parameters</b>		
Binding Post	M8	
Overall dimension	428×243×121mm	
Mounting Dimension	260×220mm	
Mounting hole size	φ9mm	
Weight	10.4kg	10.1kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

Item	NP800-12
Output Continuous Power	800W @25°C; 800W @45°C
Surge Power	1600W
Output Voltage	220/230VAC (-8%~+3%)
Output Frequency	50/60±0.2%
Output Wave	Pure Sine Wave
Output distortion THD	THD≤3%(Resistive load)
Load Power Factor	0.2~1(VA≤Continuous output power)
Rated input voltage	12VDC
Input voltage range	10.8~16VDC
output efficiency of 80% rated power <sup>①</sup>	83%
Max. Rated Efficiency <sup>②</sup>	81%
Max. Efficiency	92%(100W)
No-load Current	<0.6A
Rs485 Com. Port	5VDC/200mA
<b>Environmental parameters</b>	
Binding Post	M6
Overall dimension	475×268×139mm
Mounting Dimension	270×245mm
Mounting hole size	φ9mm
Weight	13.3kg

①Load power is 80% continuous output power(25°C)

②Load power is continuous output power (25°C)

Item	NP1000-22
Output Continuous Power	1000W @25℃ ; 800W @45℃
Surge Power	1600W
Output Voltage	220/230VAC(±3%)
Output Frequency	50/60±0.2%
Output Wave	Pure Sine Wave
Output distortion THD	THD≤3%(Resistive load)
Load Power Factor	0.2~1(VA≤Continuous output power)
Rated input voltage	24VDC
Input voltage range	21.6~32VDC
output efficiency of 80% rated power <sup>①</sup>	85%
Max. Rated Efficiency <sup>②</sup>	82%
Max. Efficiency	92%(200W)
No-load Current	<0.4A
Rs485 Com. Port	5VDC/200mA
<b>Environmental parameters</b>	
Binding Post	M6
Overall dimension	475×268×139mm
Mounting Dimension	270×245mm
Mounting hole size	φ9mm
Weight	12.7kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)



Item	NP1200-12	NP1200-22
Output Continuous Power	1200W@25°C; 1000W@45°C	
Surge Power	2000W	
Output Voltage	220/230VAC(-8%~+3%)	220/230VAC(±3%)
Output Frequency	50/60±0.2%	
Output Wave	Pure Sine Wave	
Output distortion THD	THD≤3%(Resistive load)	
Load Power Factor	0.2~1(VA≤Continuous output power)	
Rated input voltage	12VDC	24VDC
Input voltage range	10.8~16VDC	21.6~32VDC
output efficiency of 80% rated power <sup>①</sup>	81%	85%
Max. Rated Efficiency <sup>②</sup>	78%	84%
Max. Efficiency	92%(200W)	93%(300W)
No-load Current	<0.6A	<0.4A
Rs485 Com. Port	5VDC/200mA	
<b>Environmental parameters</b>		
Binding Post	M6	
Overall dimension	511×268×139mm	
Mounting Dimension	300×245mm	
Mounting hole size	φ9mm	
Weight	15.7kg	15.3kg

①Load power is 80% continuous output power(25°C)

②Load power is continuous output power (25°C)

Item	NP2000-42
Output Continuous Power	2000W@25℃; 2000W@45℃
Surge Power	4000W
Output Voltage	220/230VAC(±3%)
Output Frequency	50/60±0.2%
Output Wave	Pure Sine Wave
Output distortion THD	THD≤3%(Resistive load)
Load Power Factor	0.2~1(VA≤Continuous output power)
Rated input voltage	48VDC
Input voltage range	43.2~64VDC
output efficiency of 80% rated power <sup>①</sup>	89%
Max. Rated Efficiency <sup>②</sup>	87%
Max. Efficiency	93%(500W)
No-load Current	<0.3A
Rs485 Com. Port	5VDC/200mA (Isolation)
<b>Environmental parameters</b>	
Binding Post	M10
Overall dimension	486×313×145mm
Mounting Dimension	350×292mm
Mounting hole size	φ9mm
Weight	20.7kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

Item	NP2500-22
Output Continuous Power	2500W@25℃; 2500W@45℃
Surge Power	5000W
Output Voltage	220/230VAC(-6%~+3%)
Output Frequency	50/60±0.2%
Output Wave	Pure Sine Wave
Output distortion THD	THD≤3%(Resistive load)
Load Power Factor	0.2~1(VA≤Continuous output power)
Rated input voltage	24VDC
Input voltage range	21.6~32VDC
output efficiency of 80% rated power <sup>①</sup>	89%
Max. Rated Efficiency <sup>②</sup>	87%
Max. Efficiency	93%(500W)
No-load Current	<0.8A
Rs485 Com. Port	5VDC/200mA
<b>Environmental parameters</b>	
Binding Post	M10
Overall dimension	539×328×170mm
Mounting Dimension	350×307mm
Mounting hole size	φ9mm
Weight	32.8kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

Item	NP3000-22	NP3000-42
Output Continuous Power	3000W@25℃; 3000W@45℃	
Surge Power	6000W	
Output Voltage	220/230VAC(-5%~+3%)	220/230VAC(±3%)
Output Frequency	50/60±0.2%	
Output Wave	Pure Sine Wave	
Output distortion THD	THD≤3%(Resistive load)	
Load Power Factor	0.2~1(VA≤Continuous output power)	
Rated input voltage	24VDC	48VDC
Input voltage range	21.6~32VDC	43.2~64VDC
output efficiency of 80% rated power <sup>①</sup>	88%	90%
Max. Rated Efficiency <sup>②</sup>	86%	89%
Max. Efficiency	94%(500W)	94%(900W)
No-load Current	<0.8A	<0.5A
Rs485 Com. Port	5VDC/200mA	5VDC/200mA(loslation)
<b>Environmental parameters</b>		
Binding Post	M10	
Overall dimension	639×393×175.5mm	584×328×170mm
Mounting Dimension	350×372mm	350×307mm
Mounting hole size	φ9mm	
Weight	36.4kg	28.4kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

Item	NP3500-42
Output Continuous Power	3500W@25℃; 3500W@45℃
Surge Power	7000W
Output Voltage	220/230VAC(±3%)
Output Frequency	50/60±0.2%
Output Wave	Pure Sine Wave
Output distortion THD	THD≤3%(Resistive load)
Load Power Factor	0.2~1(VA≤Continuous output power)
Rated input voltage	48VDC
Input voltage range	43.2~64VDC
output efficiency of 80% rated power <sup>①</sup>	90%
Max. Rated Efficiency <sup>②</sup>	89%
Max. Efficiency	93%(900W)
No-load Current	<0.5A
Rs485 Com. Port	5VDC/200mA(Ioslation)
<b>Environmental parameters</b>	
Binding Post	M10
Overall dimension	564×353×175mm
Mounting Dimension	350×332mm
Mounting hole size	φ9mm
Weight	32.2kg

①Load power is 80% continuous output power(25℃)

②Load power is continuous output power (25℃)

## ■ Environmental parameters

Working Temperature	-20°C~+45°C(Full load)
Storage Temperature	-35°C~ +70°C
Humidity	< 95%(N.C.)
Enclosure	IP20
Altitude	<5000m (Derating to operate according to IEC62040 at a height exceeding 1000m)

# Annex I Disclaimer

The warranty does not apply under the following conditions:

- Damage caused by improper use or use in an inappropriate environment.
- Battery voltage exceeds the input voltage limit of the inverter.
- Damage caused by the working environment temperature exceeds the rated range.
- Unauthorized dismantling or attempted repair.
- Damage occurred during transportation or handling.
- Damage caused by force majeure.

**Any changes without prior notice! Version number : V1.1**



**BEIJING EPSOLAR TECHNOLOGY CO., LTD.**

**Tel: +86-10-82894896 / 82894112**

**Fax: +86-10-82894882**

**E-mail: [info@epsolarpv.com](mailto:info@epsolarpv.com)**

**Website: [www.epever.com](http://www.epever.com)**