LESSO GROUP
STOCK CODE: 2128.HK

LESSO

Off-grid Inverter User Manual

LGA-HJ 350-5000W

*1. The pictures are for reference only, and the actual product shall prevail.
*2. Information is subject to update without prior notice.

Contents

Important Safety Instructions

Please reserve this manual for future review.

This manual contains instructions on safety, installation, and operation for LGA-HJ 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.

DANGER

Indicates a high-level hazard that, if not avoided, will result in serious injury or death.

WARNING

Indicates a medium-level hazard that, if not avoided, could result in death or serious injury.

CAUTION

Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates an important reminder during the operation which, if ignored, may result in an equipment error alarm.

Tip	Indicates recommendation for reference.

Read through the user manual before any operations.

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 precautions.

3. Operations for professional and technical personnel

- Install the inverter to a specified location.
- Conduct trial operations for the inverter.
- Operate and maintain the inverter.

4. Safety precautions before installation

⚠ DANGER

- Keep the inverter out of the reach of children.
- When installing the inverter, please evaluate whether there is a risk of electric arc in the operation area.

NOTICE

- After receiving the inverter, check if there is any damage during transportation. If you find any problem, please contact the transportation company, our local distributor or us in time.
- When placing or moving the inverter, follow the instructions in the manual.
- 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.
- 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.

5. Safety precautions for mechanical installation

DANGER

Before installation, ensure the inverter has no electrical connection.

NOTICE

Confirm enough heat dissipation space for the inverter before installation. Do not install the inverter in a harsh environment such as humid, greasy, flammable, explosive, or dust accumulation.

6. Safety precautions for electrical connection

DANGER

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

Check whether wiring is tight to avoid the danger of heat accumulation due to loose connections.

NOTICE

- 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.
- Do not connect battery chargers or other similar products to the input terminal of the inverter. Otherwise, the inverter will be damaged.
- The protective grounding is connected to the ground. The cross-section of the wire should not be less than 4mm^2.
- A fuse or breaker should be used between battery and Inverter; the fuse or breaker's rated current should be twice the inverter rated input current.
- 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 may even damage it.
- 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.
- 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 inverter will be damaged.

7. Safety precautions for controller operation

DANGER

The inverter's AC output is of high voltage, do not touch the wiring connection to avoid electric shock.

WARNING

- When the inverter is working, the shell will generate much heat, and the temperature is very high; please do not touch it.
- When the inverter is running, please do not open the cabinet.

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

- Touch the wire end that hasn't been insulation treated and maybe 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 fall into the inverter.
- Improper operations by untrained non-professional or technical personnel.

DANGER

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

9. Safety precautions 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 service personnel.

DANGER

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

10. Safety precautions 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.

1. Product Introduction

LGA-HJ is a new generation of pure sine wave inverter compatible with the lithium battery system. This new inverter adopts surge current suppression technology to effectively prevent the surge current from damaging the lithium battery cells and BMS (Battery Management System). Also, adopting the voltage and current double closed-loop control algorithm brings the inverter a faster response and better resistance to the load impact. The inverter selects key components with a high power density and long lifespan to provide a stable and reliable power guarantee. The optional communication solutions allow users to monitor the real-time status or change the parameters wherever.

The inverter can be widely used in DC to AC areas, such as solar AC power system, vehicle system, RV power supply, security monitoring system, emergency lighting system, field power system, household power system, etc. With an excellent EMC (Electro Magnetic Compatibility) characteristic, the inverter is also suitable for occasions with high power quality requirements.

Features

- Completely electrically isolated design for input and output
- Full digital double closed-loop control
- Excellent EMC characteristic, widely applied to higher quality power system
- Advanced SPWM technology and pure sine wave output
- Input surge current suppression technology, applying to the lithium battery system
- Outstanding load resistance to impact, applying to the air conditioners, washing machines, refrigerators, etc.
- High power density and high-quality components to ensure the reliability
- Output power factor up to 1
- Low loss of zero loads and standby. Low THD (Total Harmonic Distortion). High conversion efficiency
- Extensive protections: input reverse polarity/under voltage/over voltage, output overload/short circuit/overheating
- Air cooling is controlled by temperature and load
- Rotatable LCD meter to simplify the system wiring(1)
- Friendly LCD meter to simply monitor and parameter configure(1)
- Remote control by the phone Apps and PC software
- Configurable output voltage, output frequency and baud rate(2)
- Enable power saving mode (PSE) conveniently(2)

- Charging mobile phones, DC fans, and other electrical equipment by the USB port(3)
- Support a variety of options by connecting with the RS485 com. port(4)
- External switch contact design to allow remote control
- EN/IEC62109, EN61000-6-1/3, RoHS, ETL, and FCC approved

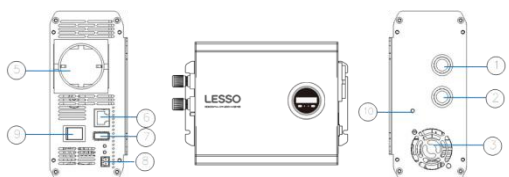
(1) There is no LCD meter for the LGA-351-HJ series.

(2) Configure the parameters via the local LCD meter (no including the LGA-351-HJ series), remote LCD meter, phone Apps, or PC software.

(3) This function is unavailable for inverters with 48V input voltage.

(4) There is no communication isolation design for inverters with 12V/24V input voltage. This function (communication isolation design) is just for inverters with 48V input voltage.

2. Appearance

<table>
<tr><td>AC Output Voltage</td><td colspan="2">100/110/120VAC</td><td colspan="2">220/230/240VAC</td></tr>
<tr><td rowspan="4">LGA-351-HJ</td><td>AC Output Port</td><td>T, N</td><td>AC Output Port</td><td>T, C</td></tr>
<tr><td colspan="2" rowspan="3"> 
Figure 1</td><td colspan="2">The appearance is the same as “Figure 1”.</td></tr>
<tr><td>AC Output Port</td><td>A, E, F, UK</td></tr>
<tr><td colspan="2"> 
Figure 2</td></tr>
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<table>
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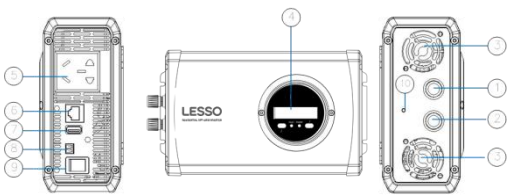
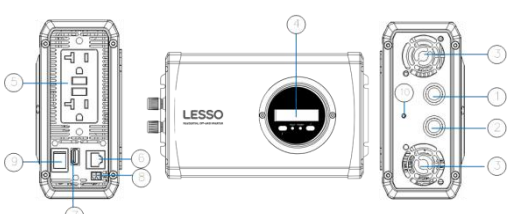
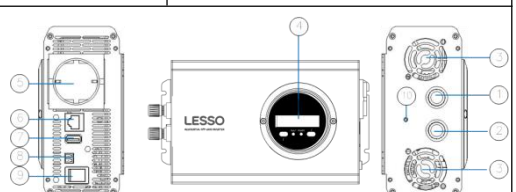
<tr><td colspan="2"> 
Figure 3</td><td colspan="2">The appearance is the same as “Figure 3”.</td></tr>
<tr><td>AC Output Port</td><td>GFCI</td><td>AC Output Port</td><td>A, E, F, UK</td></tr>
<tr><td colspan="2"> 
Figure 4</td><td colspan="2"> 
Figure 5</td></tr>
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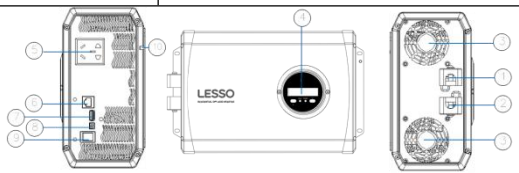
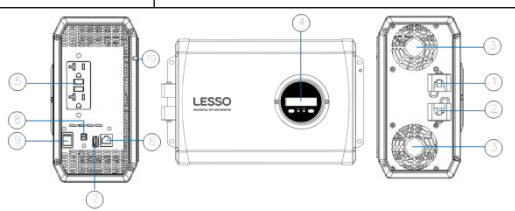
<table>
<tr><td>AC Output Voltage</td><td colspan="2">100/110/120VAC</td><td colspan="2">220/230/240VAC</td></tr>
<tr><td rowspan="4">LGA-102-HJ
LGA-152-HJ
LGA-202-HJ
LGA-302DLC2-HJ</td><td>AC Output Port</td><td>T, N, TN</td><td>AC Output Port</td><td>T, C, TC, TE, TF, A, TA, UK, TUK</td></tr>
<tr><td colspan="2"> 
Figure 6</td><td colspan="2">The appearance is the same as “Figure 6”.</td></tr>
<tr><td>AC Output Port</td><td>GFCI</td><td>AC Output Port</td><td>E, F</td></tr>
<tr><td colspan="2"> 
Figure 7</td><td colspan="2">The appearance is the same as “Figure 7”.</td></tr>
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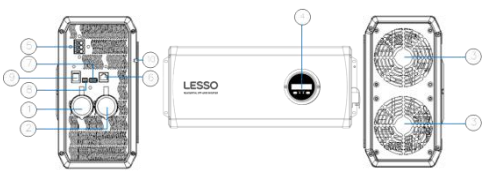
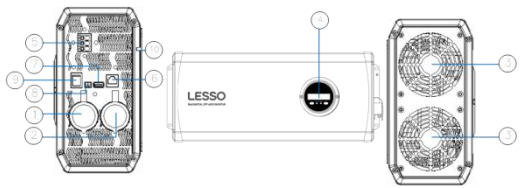
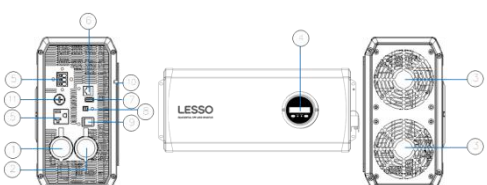
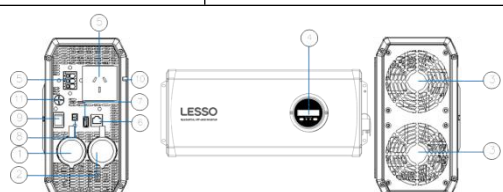
<table>
<tr><td>AC Output Voltage</td><td colspan="2">100/110/120VAC</td><td colspan="2">220/230/240VAC</td></tr>
<tr><td rowspan="4">LGA-302ALC1-HJ
LGA-302ALC2-HJ</td><td>AC Output Port</td><td>T</td><td>AC Output Port</td><td>T</td></tr>
<tr><td colspan="2"> 
Figure 8</td><td colspan="2"> 
Figure 9</td></tr>
<tr><td>AC Output Port</td><td>TN</td><td>AC Output Port</td><td>TC, E, TE, F, TF, TA, TUK</td></tr>
<tr><td colspan="2"> 
Figure 10</td><td colspan="2"> 
Figure 11</td></tr>
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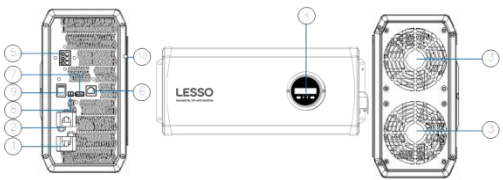
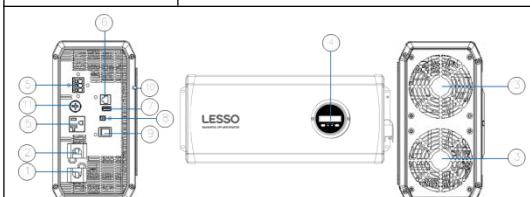
<table>
<tr><td>AC Output Voltage</td><td colspan="2">100/110/120VAC</td><td colspan="2">220/230/240VAC</td></tr>
<tr><td rowspan="4">LGA-302BLC1-HJ
LGA-302BLC2-HJ
LGA-402DLC1-HJ</td><td>AC Output Port</td><td>T</td><td>AC Output Port</td><td>T</td></tr>
<tr><td colspan="2"> 
Figure 12</td><td colspan="2">The appearance is the same as “Figure 12”.</td></tr>
<tr><td>AC Output Port</td><td>TN</td><td>AC Output Port</td><td>TC, E, TE, F, TF, TA, TUK</td></tr>
<tr><td colspan="2"> 
Figure 13</td><td colspan="2">The appearance is the same as “Figure 13”.</td></tr>
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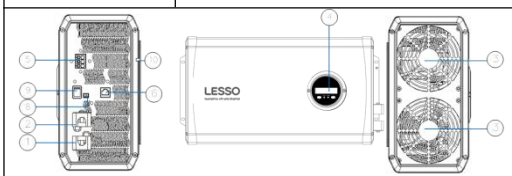
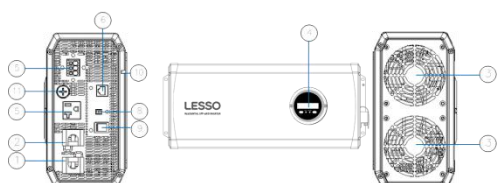
<table>
<tr><td>AC Output Voltage</td><td colspan="2">100/110/120VAC</td><td colspan="2">220/230/240VAC</td></tr>
<tr><td rowspan="4">LGA-302DLC1-HJ
LGA-402DLC2-HJ
LGA-502DLC2-HJ</td><td>AC Output Port</td><td>T</td><td>AC Output Port</td><td>T</td></tr>
<tr><td colspan="2"> 
Figure 14</td><td colspan="2">The appearance is the same as “Figure 14”.</td></tr>
<tr><td>AC Output Port</td><td>TN</td><td>AC Output Port</td><td>TC, E, TE, F, TF, TA, TUK</td></tr>
<tr><td colspan="2"> 
Figure 15</td><td colspan="2">The appearance is the same as “Figure 15”.</td></tr>
</table>

No.	Description	No.	Description
1	DC input terminal positive(1)	7	USB output port 5VDC/Max.1A(2)
2	DC input terminal negative(1)	8	External switch port
3	Cooling fan	9	Inverter switch
4	LCD	10	Grounding terminal
5	AC output port(1)	11	Fast-acting fuse terminal(3)
6	RS485 communication port		

(1) The DC input terminal and the AC output port varies with different products. Please refer to the real product.

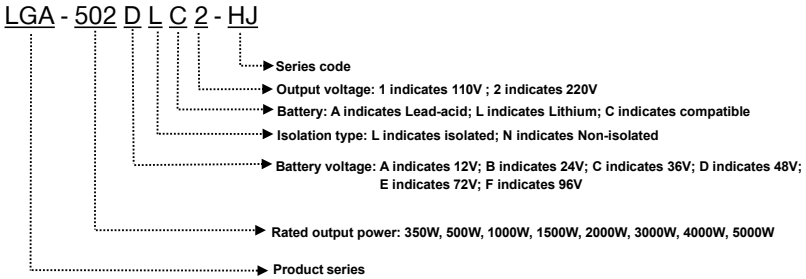
(2) USB output port is not available for inverters with 48V input voltage.

(3) The main purpose of the fast-acting fuse terminal ⑪ is to protect the AC socket. The load connected to the product, equipped with a fast-acting fuse terminal, cannot exceed the marked 10A or 20A. **Note:** Not all the LGA-HJ products are equipped with the fast-acting fuse terminal; the actual products prevail.

Cooling fan

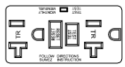
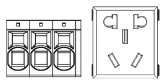
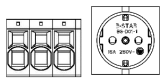
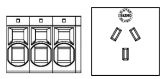
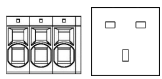
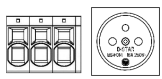
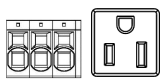
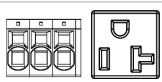
Conditions to Start the Cooling Fan	
Heat sink temperature is higher than 45℃; or The internal inverter temperature is higher than 45℃; or The output power is higher than 50% of the rated power.	All LGA-HJ models
Conditions to Stop the Cooling Fan	
Heat sink temperature is lower than 40℃; and The internal inverter temperature is lower than 40℃; and The output power is lower than 30% of the rated power.	LGA-HJ 500W and below products
Heat sink temperature is lower than 40℃; and The internal inverter temperature is lower than 40℃; and The output power is lower than 40% of the rated power.	LGA-HJ 1000W and above products

3. Naming Rule



(1) Explanations for the AC output port

Suffix	Instruction	Figure
T	Terminal	
C	Chinese dual-socket	
E	European socket	
A	Australia socket	
UK	United Kingdom socket	
F	French socket	
N	North American socket Applicable to 1500W and below products	

	North American socket Applicable to 2000W and above products	
GFCI★	American socket (Ground Fault Circuit Interrupt)	
TC	Terminal + Chinese dual-socket	
TE	Terminal + European socket	
TA	Terminal + Australia socket	
TUK	Terminal + United Kingdom socket	
TF	Terminal + French socket	
TN	Terminal + North American socket Applicable to 1500W and below products	
	Terminal + North American socket Applicable to 2000W and above products	

★ GFCI socket needs to be tested after power-on to ensure proper operation.

(2) Preparation

Connect a circuit breaker and an AC load (it is recommended to use a night light to observe the status conveniently) to the GFCI socket. Turn on the inverter after confirming the wiring.

(3) Testing

- If the red LED is ON solid, it indicates that the GFCI socket is damaged; please replace a new one.
- If the LED is green ON after it flashes in red three times, connect the circuit breaker, and the night light will be turned on. Then, press the "TEST" button to observe the testing status:
    - The "TEST" button always pops up, and the night light keeps ON solid. It indicates that the GFCI wiring is an error; please correct it.

- The "TEST" button goes down, while the "RESET" button pops up. The LED and the night light are turned off, indicating the GFCI socket is normal (**Note:** Press the "RESET" button again to recover the load output).

Tip	For detailed product model Vs. AC output port; please refer to the “LGA-HJ Model List”.

4. Connection Diagram

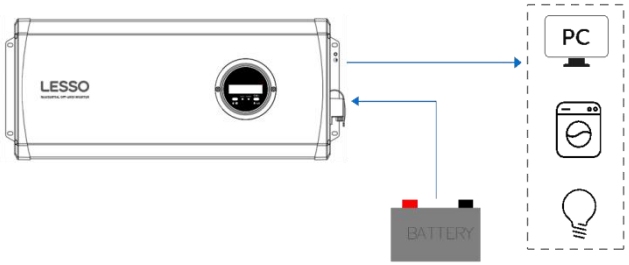
- LGA-351xLCx-HJ (take the "Appearance with decorative cover" as an example)

- LGA-501xLCx-HJ (take the "Appearance with decorative cover" as an example)

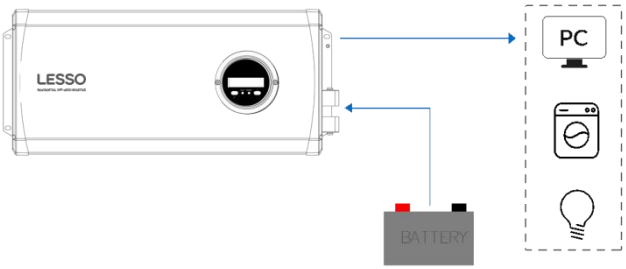
- LGA-102xLCx/LGA-152xLCx/LGA-202BLCx/LGA-202DLCx/LGA-302DLC2-HJ

- **LGA-202ALCx-HJ**

- **LGA-302ALCx-HJ**



- **LGA-302BLCx/LGA-302DLC1/LGA-402DLCx/LGA-502DLC2-HJ**

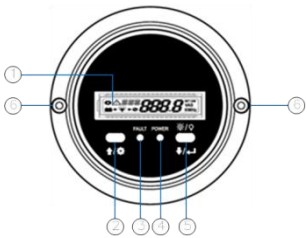


NOTICE

It is recommended to directly connect the inverter DC input terminal to the battery terminal. Do not connect it to the charge source terminal. Otherwise, the charging voltage spikes of the charge source may cause over-voltage protection of the inverter.

5. Remote Meter

5.1 Appearance



No.	Description	No.	Description
1	LCD★	4	Power indicator (blue)
2	UP/Setting button	5	DOWN/Enter button Output ON/OFF button
3	Fault indicator (red)	6	Fixing screws

★ The LCD display can be viewed clearly when the angle between the end-user's horizontal sight and the LCD screen is within 90°. If the angle exceeds 90°, the LCD display cannot be viewed clearly.

5.2 Buttons

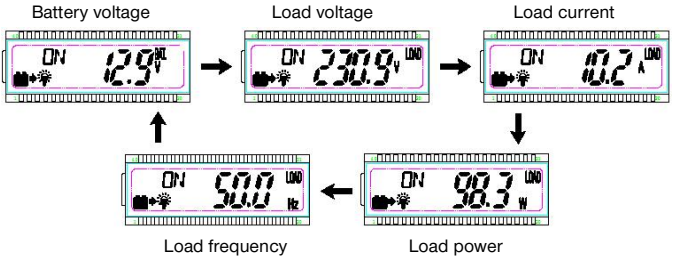
	Click	Move up/parameter increase
	Press for 2s	In the real-time interface, press it for 2s to enter the setting interface. In the setting interface, press it for 2s to enter the parameters configuration interface.
	Click	Move down/parameter decrease
	Press for 2s	Press it to turn on/off the load output (default ON) in the real-time interface. Confirm the settings.
	Click	In the setting interface, click them to exit the parameters configuration interface.
	Press for 2s	In the real-time interface, press them for 2s to clear the faults.

Note: The long buzzer beeps for the parameter confirming and short beeps for other button operations.

5.3 LCD interface

5.3.1 Real-time interface

Click  or  to browse the real-time interface.



5.3.2 Parameters setting

Operation steps:

Step 1: In the real-time interface, press  for 2s to enter the parameter setting interface.

Step 2: Click  or  to select the parameter to be configured.

Step 3: Press  for 2s to enter the configuration interface of the specified parameter.

Step 4: Click  or  to configure the parameter value.

Step 5: Press  for 2s to confirm the configuration.

Step 6: To exit the current interface, click  and  at the same time.

5.3.3 Power Saving Mode

Users can enable the power saving mode and set the PSI/PSO value by the LCD (The minimum power step is 1VA).

When the actual load power is lower than the PSI (the power to enter the power saving mode), the system will automatically switch to the power saving mode, and then the device output is turned on for 1s and turned off for 5s.

When the actual load power exceeds the PSO (the power to exit the power saving mode), the inverter will automatically exit the power saving mode and resume work.

- **Enable power saving mode (PSE)**

Step 1: In the real-time interface of the remote meter, press and hold the  button for 2s to enter the parameters setting interface.

Step 2: Click the  or  button to select the PSE parameter.

Step 3: Press and hold the  button for 2s until the PSE parameter (OFF by default) flashes.

Step 4: Click the  or  button to set the PSE parameter.

- Select ON to enable the power saving mode.
- Select OFF to disable the power saving mode.

Step 5: Press and hold the  button for 2s to confirm.

- **Set the power to exit the power saving mode (PSO)**

Step 1: In the parameters setting interface, click the  or  button to select the PSO parameter.

Step 2: Press and hold the  button for 2s until the PSO value flashes.

Step 3: Click the  or  button to set the PSO parameter.

- Click the  button to decrease the PSO value by 1.
- Click the  button to increase the PSO value by 1.
- Press and hold the  button to increase the PSO value by 10. After pressing the

button for 10 times, the PSO value will increase by 100 each time. When the button is released, press and hold it again to repeat the above operation. **Note:** The setting parameter cannot exceed the user define, otherwise it will return to the initial value to start the loop.

Step 4: Press and hold the button for 2s to confirm.

- **Set the power to enter the power saving mode (PSI)**

Step 1: In the parameters setting interface, click the or button to select the PSI parameter.

Step 2: Press and hold the button until the PSI value flashes.

Step 3: Click the or button to set the PSI parameter.

- Click the button to decrease the PSI value by 1.
- Click the button to increase the PSI value by 1.
- Press and hold the button to increase the PSI value by 10. After ten adding, the PSI value will increase by 100 each time. When the button is released, press and hold it again to repeat the above operation. **Note:** The setting parameter cannot exceed the user define, or else; it will return to the initial value to start the loop.

Step 4: Press and hold the button for 2s to confirm.

5.3.4 Parameters user define

Display	Parameters	Default	User Define
VPT	Output voltage class(1)	110VAC	100VAC/110VAC/120VAC
		220VAC	220VAC/230VAC/240VAC
		230VAC (Applicable to European socket	220VAC/230VAC/240VAC

		only, i.e. models of E/TE suffix)	
FRE	Output frequency class(1)	220/230/240VAC: 50Hz 100/110/120VAC: 60Hz	50Hz/60Hz
BLT	LCD backlight time	30s	30s/60s/100s (solid ON)
PSE	Power Saving Enable	OFF	ON/OFF
PSI	Power Saving In	20VA	20VA to (20% * rated power)
PSO	Power Saving Out	40VA	(20VA + PSI) to (50% * rated power)
BRS	Baud Rate Select(2)	115200	9600/115200
LVD	Low voltage disconnect voltage(3)	12V: 10.8V 24V: 21.6V 48V: 43.2V	12V: 10.5V–14.2V, step size 0.1V 24V: 21V–30.2V, step size 0.1V 48V: 42V–62.4V, step size 0.1V
LVR	Low voltage reconnect voltage(3)	12V: 12.5V 24V: 25V 48V: 50V	12V: 11.5V–15.2V, step size 0.1V 24V: 22V–31.2V, step size 0.1V 48V: 43V–63.4V, step size 0.1V
OVR	Overvoltage reconnect voltage(3)	12V: 14.5V 24V: 29V 48V: 58V	12V: 11.5V–15.2V, step size 0.1V 24V: 22V–31.2V, step size 0.1V 48V: 43V–63.4V, step size 0.1V
OVD	Overvoltage disconnect voltage(3)	12V: 16V 24V: 32V 48V: 64V	12V: 12.5V–16.2V, step size 0.1V 24V: 23V–32.2V, step size 0.1V 48V: 44V–64.4V, step size 0.1V

(1) After configuring the parameters marked with (1), the inverter will restart automatically. It will resume work according to the new parameter value.

(2) Due to the length limit of the LCD displayed data. When the baud rate is set to 115200, the value displayed on the LCD is 1152.

(3) For the parameters marked with (3), please set them by the input voltage rules in Chapter 7 Protections. Otherwise, the parameter settings will not succeed.

5.4 Error code

Error Code	Faults	Buzzer	Power Indicator	Fault Indicator
⚠OTP	Inverter over temperature Heat sink over temperature	Buzzer beeps	OFF	Solid ON
⚠IOV	Input over voltage	Buzzer beeps	Fast flashing (1Hz)	OFF
⚠ILV	Input low voltage	Buzzer beeps	Slowly flashing (1/4Hz)	OFF
⚠OSC	Output short circuit	Buzzer beeps	OFF	Fast flashing (1Hz)
⚠OOL	Output overload	Buzzer beeps	Solid ON	Slowly flashing (1/4Hz)

6. Installation

6.1 Attentions

- Read all the installation instructions carefully in the manual before installation.
- Be very careful when installing the batteries. When installing the open-type lead-acid battery, please wear eye protection and rinse with clean water in time for battery acid contact.
- Keep the battery away from any metal objects, which may cause a short circuit of the battery.
- Loose power connectors and corroded wires may result in high heat, melt wire insulation, burn surrounding materials, or cause a fire. Ensure tight connections and secure cables with cable clamps to prevent them from swaying in moving applications.
- The DC input voltage must strictly follow the parameter table. Too high or too low DC input voltage affects the normal operation and may damage the inverter. DC input 12V: Surge voltage < 20V. DC input 24V: Surge voltage < 40V. DC input 48V: Surge voltage < 80V.
- Select the system cables according to 3.5A/mm^2 or less current density.
- Avoid direct sunlight and rain infiltration when installing it outdoor.
- After turning off the power switch, do not open or touch the internal component immediately. Performing related operations after 10 minutes are recommended.
- Do not install the inverter in a harsh environment such as humid, greasy, flammable, explosive, or dust accumulation.
- The AC output is of high voltage, do not touch the wiring connection to avoid electric shock.
- To prevent injury, do not touch the fan while it is working.

6.2 Wire size and circuit breaker

The wiring and installation methods conform to the national and local electrical code requirements.

6.2.1 Battery

Model	Battery Wire Size	Ring Terminal	Circuit Breaker
LGA-351ALC1-HJ	6mm^2/10AWG	RNB5.5-6	DC/2P—40A
LGA-351ALC2-HJ	6mm^2/10AWG	RNB5.5-6	DC/2P—40A
LGA-351BLC1-HJ	2.5mm^2/13AWG	RNB3.5-6	DC/2P—32A
LGA-351BLC2-HJ	2.5mm^2/13AWG	RNB3.5-6	DC/2P—32A

LGA-501ALC1-HJ	10mm²/7AWG	RNB8-6S	DC/2P—63A
LGA-501ALC2-HJ	10mm²/7AWG	RNB8-6S	DC/2P—63A
LGA-501BLC1-HJ	6mm²/10AWG	RNB5.5-6	DC/2P—32A
LGA-501BLC2-HJ	6mm²/10AWG	RNB5.5-6	DC/2P—32A
LGA-102ALC1-HJ	25mm²/3AWG	RNB38-6	DC/2P—125A
LGA-102ALC2-HJ	25mm²/3AWG	RNB38-6	DC/2P—125A
LGA-102BLC1-HJ	16mm²/5AWG	RNB14-6S	DC/2P—63A
LGA-102BLC2-HJ	16mm²/5AWG	RNB14-6S	DC/2P—63A
LGA-102DLC1-HJ	6mm²/10AWG	RNB5.5-6	DC/2P-40A
LGA-102DLC2-HJ	6mm²/10AWG	RNB5.5-6	DC/2P-40A
LGA-152ALC1-HJ★	25mm²/3AWG	RNB60-6	DC—100A (2P in parallel)
LGA-152ALC2-HJ★	25mm²/3AWG	RNB60-6	DC—100A (2P in parallel)
LGA-152BLC1-HJ	16mm²/5AWG	RNB14-6S	DC/2P—125A
LGA-152BLC2-HJ	16mm²/5AWG	RNB14-6S	DC/2P—125A
LGA-152DLC1-HJ	10mm²/7AWG	RNB14-6S	DC/2P—63A
LGA-152DLC2-HJ	10mm²/7AWG	RNB14-6S	DC/2P—63A
LGA-202ALC1-HJ★	35mm²/2AWG	RNB70-10	DC—125A (2P in parallel)
LGA-202ALC2-HJ★	35mm²/2AWG	RNB70-10	DC—125A (2P in parallel)
LGA-202BLC1-HJ	35mm²/2AWG	RNB38-6	DC/2P—125A
LGA-202BLC2-HJ	35mm²/2AWG	RNB38-6	DC/2P—125A
LGA-202DLC1-HJ	16mm²/5AWG	RNB14-6S	DC/2P—63A
LGA-202DLC2-HJ	16mm²/5AWG	RNB14-6S	DC/2P—63A
LGA-302ALC1-HJ★	25mm²/3AWG	RNB80-10	DC—125A (3P in parallel)
LGA-302ALC2-HJ★	25mm²/3AWG	RNB80-10	DC—125A (3P in parallel)
LGA-302BLC1-HJ★	25mm²/3AWG	RNB60-6	DC—100A (2P in parallel)
LGA-302BLC2-HJ★	25mm²/3AWG	RNB60-6	DC—100A (2P in parallel)
LGA-302DLC1-HJ	25mm²/3AWG	RNB22-6S	DC/2P—125A

LGA-302DLC2-HJ	25mm²/3AWG	RNB22-6S	DC/2P—125A
LGA-402DLC1-HJ	35mm²/2AWG	RNB38-6	DC/2P—125A
LGA-402DLC2-HJ	35mm²/2AWG	RNB38-6	DC/2P—125A
LGA-502DLC2-HJ★	25mm²/3AWG	RNB60-6	DC—100A (2P in parallel)

★ According to the recommended battery wire size, two battery wires, connected in parallel, are necessary for LGA-152ALC1-HJ, LGA-152ALC2-HJ, LGA-202ALC1-HJ, LGA-202ALC2-HJ, LGA-302BLC1-HJ LGA-302BLC2-HJ, and LGA-502DLC2-HJ. For connection method, refer to the right figure. Four battery wires, connected in parallel, are necessary for LGA-302ALC1-HJ and LGA-302ALC2-HJ.

NOTICE

The above wire size and circuit breaker size are for reference only; please choose a suitable wire and circuit breaker according to the actual situation.

6.2.2 AC output

Model	Wire Size	Circuit Breaker
LGA-351ALC1-HJ	1mm²/18AWG	AC/2P—6A
LGA-351ALC2-HJ	1mm²/18AWG	AC/2P—6A
LGA-351BLC1-HJ	1mm²/18AWG	AC/2P—6A
LGA-351BLC2-HJ	1mm²/18AWG	AC/2P—6A
LGA-501ALC1-HJ	1mm²/18AWG	AC/2P—10A
LGA-501ALC2-HJ	1mm²/18AWG	AC/2P—6A
LGA-501BLC1-HJ	1mm²/18AWG	AC/2P—10A
LGA-501BLC2-HJ	1mm²/18AWG	AC/2P—6A
LGA-102ALC1-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-102ALC2-HJ	1.5mm²/15AWG	AC/2P—10A

LGA-102BLC1-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-102BLC2-HJ	1.5mm²/15AWG	AC/2P—10A
LGA-102DLC1-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-102DLC2-HJ	1.5mm²/15AWG	AC/2P—10A
LGA-152ALC1-HJ	4mm²/11AWG	AC/2P—25A
LGA-152ALC2-HJ	1.5mm²/15AWG	AC/2P—10A
LGA-152BLC1-HJ	4mm²/11AWG	AC/2P—25A
LGA-152BLC2-HJ	1.5mm²/15AWG	AC/2P—10A
LGA-152DLC1-HJ	4mm²/11AWG	AC/2P—25A
LGA-152DLC2-HJ	1.5mm²/15AWG	AC/2P—10A
LGA-202ALC1-HJ	4mm²/11AWG	AC/2P—32A
LGA-202ALC2-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-202BLC1-HJ	4mm²/11AWG	AC/2P—32A
LGA-202BLC2-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-202DLC1-HJ	4mm²/11AWG	AC/2P—32A
LGA-202DLC2-HJ	2.5mm²/13AWG	AC/2P—16A
LGA-302ALC1-HJ	6mm²/10AWG	AC/2P—50A
LGA-302ALC2-HJ	4mm²/11AWG	AC/2P—25A
LGA-302BLC1-HJ	6mm²/10AWG	AC/2P—50A
LGA-302BLC2-HJ	4mm²/11AWG	AC/2P—25A
LGA-302DLC1-HJ	6mm²/10AWG	AC/2P—50A
LGA-302DLC2-HJ	4mm²/11AWG	AC/2P—25A
LGA-402DLC1-HJ	6mm²/10AWG	AC/2P—63A

LGA-402DLC2-HJ	4mm²/11AWG	AC/2P—32A
LGA-502DLC2-HJ	4mm²/11AWG	AC/2P—40A

NOTICE

- The above wire size and circuit breaker size are for reference only; please choose a suitable wire and circuit breaker according to the actual situation.
- The wire size is only for reference. Suppose there is a long distance between the inverter and the battery. In that case, larger wires shall be used to reduce the voltage drop and improve the system performance.

6.3 Mounting and wiring

6.3.1 Mounting

Step1: Professional personnel reads this manual carefully.

Step 2: Determine the installation location and heat-dissipation space.

The inverter shall be installed in a place with sufficient airflow through the dissipation pad of the inverter. And a minimum clearance of 150mm from the upper and lower edges of the inverter is recommended to ensure natural thermal convection. The following takes LGA-351xx-HJ as an example to introduce the wiring.

⚠ WARNING

Do not install the product in an enclosed cabinet, as it will affect device cooling. If installed in an enclosed cabinet, ensure effective ventilation and avoid full-load operation. Otherwise, over-temperature protection may activate.

6.3.2 Wiring

NOTICE

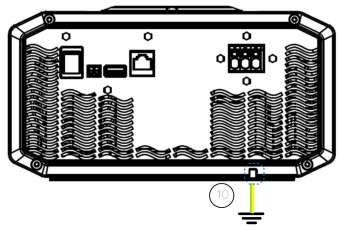
- Turn off the inverter switch before wiring.
- Please do not connect the circuit breaker or fuse during the wiring and ensure that the poles' leads are connected correctly.
- The terminals and ports on the side vary from the inverter models.

Wiring sequence

The following wiring sequence is illustrated in the appearance “LGA-202xx-HJ”. For wiring positions of other inverters, please refer to Chapter 2 Appearance for reference.

1. Ground connection

The specifications of ground cable must be greater than or equal to that of AC output, please refer to Section 6.2 Wire size and circuit breaker for AC output cable specifications of different models.

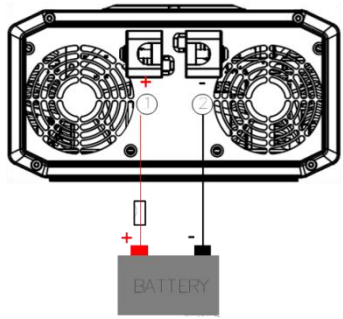


2. Battery connection

NOTICE

A fast-acting fuse must be installed on the battery side, conformed to the following requirements:

- Fast-acting fuse voltage is 1.5 to 2 times the inverter's rated voltage.
- Fast-acting fuse current is 2 to 2.5 times the inverter's rated current.
- Distance between the fast-acting fuse and the battery cannot be farther than 150mm.

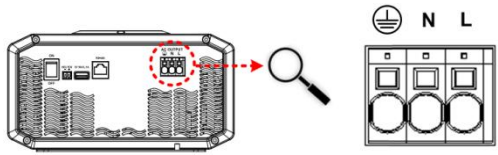


3. AC loads connection

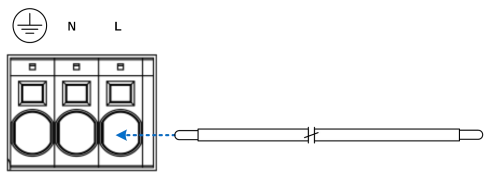
NOTICE

- The AC loads shall be determined by the continuous output power of the inverter. The surge power of the AC load must be lower than the instantaneous surge power of the inverter, otherwise, the inverter will be damaged.

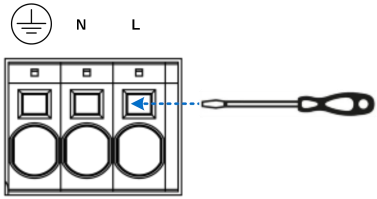
Definition of the AC output port: It varies with different product models; please refer to the actual product. The following takes the AC terminal as an example.



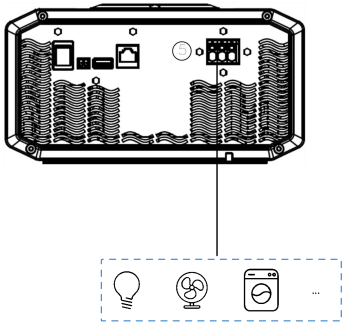
- It is recommended to use multi-stranded wire with a wire diameter of not more than 6mm^2.
- Add solder to the connection point when selecting the multi-stranded wire and directly insert it into the corresponding port.



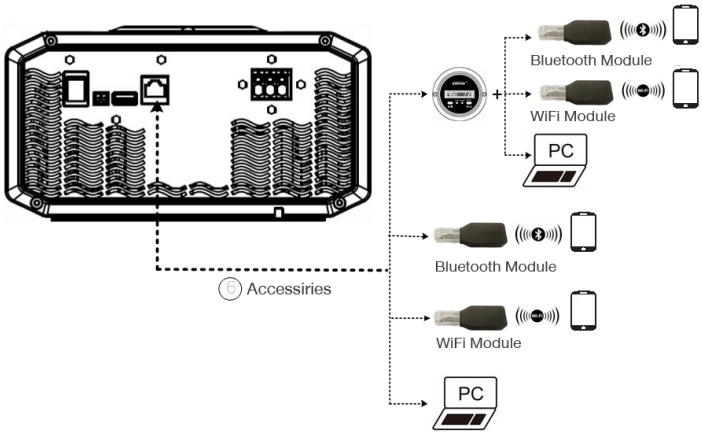
- Turn off the inverter before removing the wiring. Then, insert a sharp tool into the small hole (on the top of the port) and pull out the wiring forcefully.



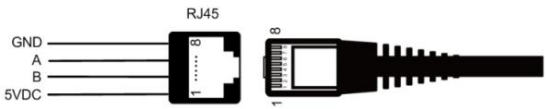
- Connect the AC load



4. Optional accessories connection

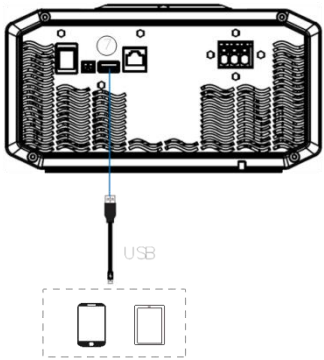


RS485 communication port:



Pin	Definition	Instruction	Pin	Definition	Instruction
1	+5VDC	5V/200mA	5	RS485-A	RS485-A
2	+5VDC		6	RS485-A	
3	RS485-B	RS485-B	7	GND	Power GND
4	RS485-B		8	GND	

5. **USB port connection (USB port is not available for inverters with 48V input voltage.)**



6.3.3 Power on the inverter

Step 1: Connect the breaker at the inverter input terminal or the fast-acting fuse at the battery terminal.

Step 2: Turn on the inverter switch, and the green indicator will be lighted on, which states a normal AC output.

Step 3: Turn on the AC loads one by one and check the inverter's running status and the loads.

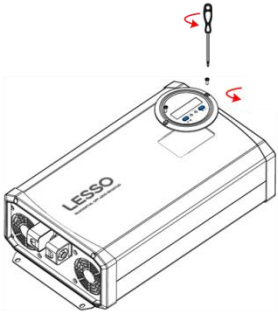
Step 4: If the FAULT indicator flashes red and the buzzer alarms after powering the inverter, please immediately turn off the load and the inverter. Clear the faults according to Chapter 8 Troubleshooting. After clearing the faults, please operate the inverter again by following the above steps.

NOTICE

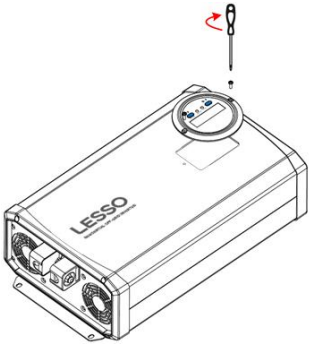
When supplying power for different loads, it is recommended to first turn on the load with a large impulse current. And then turn on the load with a smaller impulse current after the load output is stable.

6.4 Rotate the LCD

Step 1: Remove the screws of the LCD unit with a screwdriver, and rotate it 180°.



Step 2: Secure the screws of the LCD unit to the inverter.



7. Protections

7.1 Input reverse polarity protection

When the DC input terminal's polarity is reversed, the indicator will not light up after power on. The buzzer will not sound, and the inverter will not work. The inverter will start to work normally after correcting the error wiring.

7.2 Input voltage protection

- **The following rules must be followed when modifying the battery's input voltage parameters:**

A. Over voltage limiting voltage (16.2/32.2/64.4V) ≥ Over voltage disconnect voltage ≥ Over voltage reconnect voltage plus 1V.

B. Over voltage reconnect voltage ≥ Low voltage reconnect voltage.

C. Low voltage reconnect voltage ≥ Low voltage disconnect voltage plus 1V.

D. Low voltage disconnect voltage ≥ Low voltage limiting voltage (10.5/21/42V).

- **Detail status is shown as the following when the input voltage protection occurs.**

Input Voltage Protection	Status
Over voltage protection	The output is switched OFF immediately. The blue indicator fast flashes. Buzzer beeps. LCD displays ⚠IOV.
Over voltage recovery protection	The blue indicator is solid ON. The output voltage is normal.
Low voltage protection	The output is switched OFF immediately. The blue indicator Slowly flashes. Buzzer beeps. LCD displays ⚠IL V.
Low voltage recovery protection	The blue indicator is solid ON. The output voltage is normal.

NOTICE

Although the inverter is supplied with the input over-voltage protection, the surge voltage cannot higher than 20V for the 12V system, not higher than 40V for the 24V system, and not higher than 80V for the 48V system. Otherwise, the inverter may be damaged.

7.3 Overload protection

Product Model	Overload Condition	Overload Status
LGA-351ALC1-HJ LGA-351ALC2-HJ LGA-351BLC1-HJ LGA-351BLC2-HJ LGA-501ALC1-HJ LGA-501ALC2-HJ LGA-501BLC1-HJ LGA-501BLC2-HJ LGA-102ALC1-HJ LGA-102ALC2-HJ LGA-102BLC1-HJ LGA-102BLC2-HJ LGA-102DLC1-HJ LGA-102DLC2-HJ LGA-152ALC1-HJ LGA-152ALC2-HJ LGA-152BLC1-HJ LGA-152BLC2-HJ LGA-152DLC1-HJ LGA-152DLC2-HJ LGA-202ALC2-HJ LGA-202BLC1-HJ LGA-202BLC2-HJ LGA-202DLC1-HJ LGA-202DLC2-HJ LGA-302BLC1-HJ★ LGA-302BLC2-HJ★	S = 1.2Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 1 minute. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S = 1.5Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 30 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S = 1.8Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 10 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S > 2Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 5 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.

LGA-302DLC1-HJ LGA-302DLC2-HJ		

NOTICE

When the overload protection happens, the AC output will be recovered automatically three times (recover after 5s, 10s, and 15s separately). After three times recovery attempts fail, you need to restart the inverter to recover the AC output.

★When the overload protection happens on LGA-302BLC1-HJ or LGA-302BLC2-HJ, the AC output is shut down directly and cannot be recovered automatically.

Product Model	Overload Condition	Overload Status
LGA-202ALC1-HJ LGA-302ALC1-HJ	S = 1.2Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 1 minute. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S = 1.5Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 10 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S ≥ 1.6Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 5 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
LGA-302ALC2-HJ LGA-402DLC1-HJ LGA-402DLC2-HJ	S = 1.2Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 1 minute. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S = 1.5Pe (S: Output power;	The output is switched OFF after 10 seconds.

	Pe: Rated power)	Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S ≥ 1.7Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 5 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
LGA-502DLC2-HJ	S = 1.2Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 1 minute. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S = 1.4Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 10 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.
	S > 1.4Pe (S: Output power; Pe: Rated power)	The output is switched OFF after 5 seconds. Buzzer beeps. Red indicator slowly flashes. LCD displays ⚠OOL.

NOTICE

When the overload protection happens, the AC output cannot recover automatically. The AC output will be shut down according to the multiple of the overload. You can recover the AC output after clearing the overload faults and restarting the inverter.

7.4 Output short circuit protection

Faults	Instruction
The output is switched OFF immediately. Buzzer beeps. Red indicator fast flashes. LCD displays ⚠OSC.	When the short circuit protection happens, the AC output will be recovered automatically three times (recover after 5s, 10s, and 15s separately). After three times recovery attempts fail, you need to restart the inverter to recover the AC output.

7.5 Inverter over temperature protection

Faults	Instruction
LCD displays ⚠OTP. The inverter stops working.	The inverter stops working after the temperature of the heat sink or the internal modules is higher than a set value.
The inverter resumes work.	The inverter resumes work after the temperature of the heat sink or the internal modules is lower than a set value.

8. Troubleshooting

DANGER

A high voltage occurs inside the inverter. Do not try to repair or maintain the inverter by yourself, and it may cause an electric shock.

LCD	Faults	Possible Reasons	Troubleshooting
	Blue indicator slowly flashes Buzzer beeps	The DC input voltage is too low.	Check whether the DC input voltage is lower than 10.8/21.6/43.2V by a multi-meter. The inverter resumes work after adjusting the input voltage.
	Blue indicator fast flashes Buzzer beeps	The DC input voltage is too high.	Check whether the DC input voltage is higher than16/32/64V by a multi-meter. The inverter resumes work after adjusting the input voltage
	Red indicator slowly flashes Buzzer beeps	Overload	Check whether the AC load's power is within the inverter's rated power; clear the overload faults and restart the inverter.
	Red indicator fast flashes Buzzer beeps	Load short-circuit	Check the load connection carefully. Clear the short circuit faults and restart the inverter.
	Red indicator is solid ON Buzzer beeps	Inverter over-temperature	Improve the ventilation situation and cool the surrounding temperature. It is recommended to restart the inverter after the temperature drops. If the fault cannot be cleared after performing the above operations, decline the rated power.

9. Maintenance

For good performance, the following inspections and maintenance tasks are recommended at least two times per year.

- Make sure no block on airflow around the inverter. Clear up any dirt and fragments on the heat sink.
- Check all the naked wires to ensure insulation is not damaged by sun exposure, frictional wear, dryness, insects or rats, etc.
- Verify the indicator display is consistent with the actual operation.
- Confirm that terminals have no corrosion, insulation damage, high temperature, burnt/discolored sign, and tighten terminal screws to the suggested torque.
- Clear up dirt, nesting insects, and corrosion in time.
- Check and confirm that the lightning arrester is in good condition. Replace a new one in time to avoid damaging the inverter and other equipment.

⚠ DANGER

Electric shock hazard! Confirm all the power is turned off and all the capacitor's energy has been discharged before performing the above operations.

10. Specifications

- **100/110/120VAC output**

Parameter	LGA-351ALC1-HJ	LGA-351BLC1-HJ
Continuous Output Power	350W@35℃@Rated input voltage	
Surge Power	700W@5S	
Power-on Surge Current	< 30A	
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to+3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 4% (Resistive load)	≤ 3% (Resistive load)
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	12VDC	24VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC
Rated Output Efficiency(1)	> 87.0%	> 90.0%
Maximum Output Efficiency(2)	> 89.0% (70% loads)	> 90.5% (70% loads)
Standby Current	< 0.15A	< 0.10A
No-load Current	< 0.8A	< 0.4A
USB Port	5VDC/Max.1A	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	229mm × 163.5mm × 75mm (with decorative cover) 229mm × 160mm × 73mm (without decorative cover)	
Mounting Dimensions (L × W)	205mm × 75mm	
Mounting Hole Size	Φ5mm	
Net Weight	1.47kg	

Parameter	LGA-501ALC1-HJ	LGA-501BLC1-HJ
Continuous Output Power	500W@35℃@Rated input voltage	
Surge Power	1,000W@5S	
Power-on Surge Current	< 50A	
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to+3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 4% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	12VDC	24VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC
Rated Output Efficiency(1)	> 87.5%	> 90.0%
Maximum Output Efficiency(2)	> 90.0% (40% loads)	> 91.0% (40% loads)
Standby Current	< 0.15A	< 0.10A
No-load Current	< 0.8A	< 0.5A
USB Port	5VDC/Max.1A	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	286mm × 163.5mm × 78mm (with decorative cover) 286mm × 160mm × 78mm (without decorative cover)	
Mounting Dimensions (L × W)	262mm × 75mm	
Mounting Hole Size	Φ5mm	
Net Weight	2.00kg	

Parameter	LGA-102ALC1-HJ	LGA-102BLC1-HJ	LGA-102DLC1-HJ
Continuous Output Power	1,000W@35℃@Rated input voltage		
Surge Power	2,000W@5S		
Power-on Surge Current	< 100A		< 35A
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to +3%)		100VAC/110VAC/ 120VAC(±3%)
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 4% (Resistive load)	≤ 3% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 87.0%	> 90.0%	> 91.0%
Maximum Output Efficiency(2)	> 92.0% (40% loads)	> 92.5% (30% loads)	> 92.5% (40% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 0.8A	< 0.6A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M6		
Dimensions (L × W × H)	371mm × 231.5mm × 123mm		332 mm × 231.5mm ×123mm
Mounting Dimensions (L × W)	345mm × 145mm		306mm ×145mm
Mounting Hole Size	Φ6mm		
Net Weight	5.15kg	4.86kg	4.36kg

Parameter	LGA-152ALC1-HJ	LGA-152BLC1-HJ	LGA-152DLC1-HJ
Continuous Output Power	1,500W@35℃@Rated input voltage		
Surge Power	3,000W@5S		
Power-on Surge Current	< 100A		< 50A
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to +3%)		
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 4% (Resistive load)		
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 88.0%		> 90.0%
Maximum Output Efficiency(2)	> 93.0% (30% loads)	> 92.5% (30% loads)	> 92.0% (30% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.0A	< 0.9A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M6		
Dimensions (L × W × H)	387mm × 231.5mm × 123mm		
Mounting Dimensions (L × W)	361mm × 145mm		
Mounting Hole Size	Φ6mm		
Net Weight	5.90kg	5.70kg	5.53kg

Parameter	LGA-202ALC1-HJ	LGA-202BLC1-HJ	LGA-202DLC1-HJ
Continuous Output Power	2,000W@35℃@Rated input voltage		
Surge Power	4,000W@5S		
Power-on Surge Current	< 100A		< 50A
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to +3%)		
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 5% (Resistive load)	≤ 4% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 85.0%	> 88.0%	
Maximum Output Efficiency(2)	> 92.0% (30% loads)		> 93.0% (30% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.2A	< 0.9A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M10	M6	
Dimensions (L × W × H)	420mm × 231.5mm × 123mm	421mm × 231.5mm × 123mm	
Mounting Dimensions (L × W)	395mm × 145mm		
Mounting Hole Size	Φ6mm		
Net Weight	7.45kg	6.28kg	6.20kg

Parameter	LGA-302ALC1-HJ	LGA-302BLC1-HJ
Continuous Output Power	3,000W@35℃@Rated input voltage	
Surge Power	4,800W@5S	6,000W@5S
Power-on Surge Current	< 100A	
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to +3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 4% (Resistive load)	≤ 5% (Resistive load)
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	12VDC	24VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC
Rated Output Efficiency(1)	> 85.0%	> 87.0%
Maximum Output Efficiency(2)	> 93.0% (30% loads)	> 91.5% (30% loads)
Standby Current	< 0.2A	< 0.15A
No-load Current	< 1.6A	< 1A
USB Port	5VDC/Max.1A	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M10	M6
Dimensions (L × W × H)	550mm × 274mm × 148mm	521mm × 274mm × 148mm
Mounting Dimensions (L × W)	525mm × 145mm	495mm × 145mm
Mounting Hole Size	Φ6mm	
Net Weight	11.60kg	9.00kg

Parameter	LGA-302DLC1-HJ	LGA-402DLC1-HJ
Continuous Output Power	3,000W@35℃@Rated input voltage	4,000W@35℃ @Rated input voltage
Surge Power	6,000W@5S	8,000W@5S
Power-on Surge Current	< 65A	
Output Voltage	100VAC/110VAC (±3%); 120VAC (-7% to +3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 4% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	48VDC	
Input Voltage Range	43.2 to 64.0VDC	
Rated Output Efficiency(1)	> 89.5%	> 88.0%
Maximum Output Efficiency(2)	> 93.5% (30% loads)	> 93.0% (30% loads)
Standby Current	< 0.1A	
No-load Current	< 0.4A	< 0.6A
USB Port	—	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	516mm x 231.5mm x 123mm	521mm × 274mm × 148mm
Mounting Dimensions (L × W)	490mm x 145mm	495mm x 145mm
Mounting Hole Size	Φ6mm	
Net Weight	7.35kg	10.65kg

- **220/230/240VAC output**

Parameter	LGA-351ALC2-HJ	LGA-351BLC2-HJ
Continuous Output Power	350W@35℃@ Rated input voltage	
Surge Power	700W@5S	
Power-on Surge Current	< 30A	
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 3% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	12VDC	24VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32VDC
Rated Output Efficiency(1)	> 89.0%	> 90.0%
Maximum Output Efficiency(2)	> 90.0% (70% loads)	> 91.5% (70% loads)
Standby Current	< 0.15A	< 0.10A
No-load Current	< 0.9A	< 0.4A
USB Port	5VDC/Max.1A	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	229mm × 163.5mm × 75mm (with decorative cover) 229mm × 160mm × 73mm (without decorative cover)	
Mounting Dimensions (L × W)	205mm × 75mm	
Mounting Hole Size	Φ5mm	
Net Weight	1.47kg	

Parameter	LGA-501ALC2-HJ	LGA-501BLC2-HJ
Continuous Output Power	500W@35℃@Rated input voltage	
Surge Power	1,000W@5S	
Power-on Surge Current	< 50A	
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 3% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	12VDC	24VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32VDC
Rated Output Efficiency(1)	> 89.5%	> 91.5%
Maximum Output Efficiency(2)	> 91.0% (40% loads)	> 92.0% (40% loads)
Standby Current	< 0.15A	< 0.10A
No-load Current	< 0.9A	< 0.6A
USB Port	5VDC/Max.1A	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	286mm × 163.5mm × 78mm (with decorative cover) 286mm × 160mm × 78mm (without decorative cover)	
Mounting Dimensions (L × W)	262mm × 75mm	
Mounting Hole Size	Φ5mm	
Net Weight	2.00kg	

Parameter	LGA-102ALC2-HJ	LGA-102BLC2-HJ	LGA-102DLC2-HJ
Continuous Output Power	1,000W@35℃@Rated input voltage		
Surge Power	2,000W@5S		
Power-on Surge Current	< 100A		< 35A
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)		220VAC/230VAC/ 240VAC(±3%)
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 3% (Resistive load)		
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 89.0%	> 90.0%	> 92.0%
Maximum Output Efficiency(2)	> 93.0% (40% loads)	> 93.0% (30% loads)	> 93.0% (40% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.1A	< 0.9A	< 0.4A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M6		
Dimensions (L × W × H)	371mm × 231.5mm × 123mm		332mm × 231.5mm × 123mm
Mounting Dimensions (L × W)	345mm × 145mm		306mm×145mm
Mounting Hole Size	Φ6mm		
Net Weight	5.10kg	4.87kg	4.30Kg

Parameter	LGA-152ALC2-HJ	LGA-152BLC2-HJ	LGA-152DLC2-HJ
Continuous Output Power	1,500W@35℃@Rated input voltage		
Surge Power	3,000W@5S		
Power-on Surge Current	< 100A		< 50A
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)		
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 3% (Resistive load)		
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 89.0%	> 90.0%	> 92.5%
Maximum Output Efficiency(2)	> 93.0% (30% loads)	> 93.5% (30% loads)	> 94.0% (30% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.2A	< 0.9A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M6		
Dimensions (L × W × H)	387mm × 231.5mm × 123mm		
Mounting Dimensions (L × W)	361mm × 145mm		
Mounting Hole Size	Φ6mm		
Net Weight	5.85kg	5.48kg	5.30kg

Parameter	LGA-202ALC2-HJ	LGA-202BLC2-HJ	LGA-202DLC2-HJ
Continuous Output Power	2,000W@35℃@Rated input voltage		
Surge Power	4,000W@5S		
Power-on Surge Current	< 100A		< 50A
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)		
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 3% (Resistive load)		
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 88.0%	> 90.0%	> 92.5%
Maximum Output Efficiency(2)	> 94.0% (30% loads)	> 93.0% (30% loads)	> 94.5% (30% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.2A	< 1.0A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M10	M6	
Dimensions (L × W × H)	420mm × 231.5mm × 123mm	421mm × 231.5mm × 123mm	
Mounting Dimensions (L × W)	395mm × 145mm		
Mounting Hole Size	Φ6mm		
Net Weight	7.25kg	6.07kg	6.00kg

Parameter	LGA-302ALC2-HJ	LGA-302BLC2-HJ	LGA-302DLC2-HJ
Continuous Output Power	3,000W@35℃@Rated input voltage		
Surge Power	6,000W@5S		
Power-on Surge Current	< 100A		< 65A
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)		
Output Frequency	50/60Hz ± 0.2%		
Output Wave	Pure Sine Wave		
THDu	≤ 3% (Resistive load)		
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)		
Rated Input Voltage	12VDC	24VDC	48VDC
Input Voltage Range	10.8 to 16.0VDC	21.6 to 32.0VDC	43.2 to 64.0VDC
Rated Output Efficiency(1)	> 87.0%	> 90.0%	> 92.5%
Maximum Output Efficiency(2)	> 94.0% (30% loads)		> 94.5% (30% loads)
Standby Current	< 0.2A	< 0.15A	< 0.1A
No-load Current	< 1.6A	< 1.0A	< 0.5A
USB Port	5VDC/Max.1A		—
RS485 Port	5VDC/200mA		
Mechanical Parameters			
Input Terminal	M10	M6	
Dimensions (L × W × H)	557mm × 231.5mm × 123mm	521mm × 274mm× 148mm	491mm × 231.5mm × 123mm
Mounting Dimensions (L × W)	532mm × 145mm	495mm × 145mm	465mm × 145mm
Mounting Hole Size	Φ6mm		
Net Weight	9.60kg	8.85kg	7.00kg

Parameter	LGA-402DLC2-HJ	LGA-502DLC2-HJ
Continuous Output Power	4,000W@35℃@Rated input voltage	5,000W@35℃@Rated input voltage
Surge Power	8,000W@5S	
Power-on Surge Current	< 65A	
Output Voltage	220VAC (±3%); 230VAC (-6% to +3%); 240VAC (-9% to +3%)	
Output Frequency	50/60Hz ± 0.2%	
Output Wave	Pure Sine Wave	
THDu	≤ 3% (Resistive load)	
Load Power Factor	0.2 to 1 (Load power ≤ Continuous output power)	
Rated Input Voltage	48VDC	
Input Voltage Range	43.2 to 64.0VDC	
Rated Output Efficiency(1)	> 91.0%	
Maximum Output Efficiency(2)	> 94.0% (30% loads)	
Standby Current	< 0.1A	
No-load Current	< 0.6A	< 0.8A
USB Port	—	
RS485 Port	5VDC/200mA	
Mechanical Parameters		
Input Terminal	M6	
Dimensions (L × W × H)	516mm × 231.5mm × 123mm	531mm × 231.5mm × 123mm
Mounting Dimensions (L × W)	490mm × 145mm	505mm × 145mm
Mounting Hole Size	Φ6mm	
Net Weight	8.15kg	8.90kg

Environment Parameters	
Operating Temperature	-20℃ to +60℃ (Refer to the Derating Curve)
Storage Temperature	-35℃ to +70℃
Relative Humidity	≤ 95% (N.C.)
Ingress Protection	IP20
Altitude	< 5,000m (If the altitude exceeds 1,000 meters, the rated power will be reduced according to IEC62040.)
Certification	
Safety	EN/IEC62109-1, EN/IEC62109-2, UL1741, UL458, CSA C22.2#107.1
EMC (Electro Magnetic compatibility)	EN/IEC61000-6-1, 2, 3, 4 FCC 47 CFR Part 15, Subpart B
RoHS	IEC62321-3-1

Instructions for the (1)/(2) marked in specifications table:

(1) It means the rated output efficiency when the load power equals the continuous output power under the rated DC input voltage.

(2) It means the max. output efficiency when the inverter is connected with different loads under the rated DC input voltage.

Disclaimers

The warranty does not apply to the following conditions:

- Damage is caused by improper use or an inappropriate environment (humid, salt spray, corrosion, greasy, flammable, explosive, dust accumulative, or other severe environments).
- The actual current/voltage/power exceeds the limit value of the inverter.
- Damage caused by working temperature exceeds the rated range.
- Arc, fire, explosion, and other accidents are caused by failure to follow the inverter stickers or manual instructions.
- Disassemble and repair the inverter without authorization.
- Damage caused by force majeure.
- Damage occurred during transportation or handling.
- Before using precise instruments, such as a medical instrument, end-users must read the manual carefully and ensure the inverter's output power/output voltage is suitable. We are not responsible for the instrument damage caused by improper use.

Any changes without prior notice! Version number: V3.5