Li Time

Originate from Ampere Time

www.litime.com

Shenzhen Litime Technology Co., Ltd

service@litime.com technicalsupport@litime.com

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LiFePO4

3000W

(12VDC | 110-120VAC)

PRODUCT MANUAL

Pure Sine Wave Power Inverter

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IMPORTANT SAFETY INSTRUCTIONS

Please read the following safety instructions carefully and perform installation and connection operations under the guidance of professionals. This manual contains important safety, installation, and operating instructions for the inverter.

General

- **Read all the instructions** and cautions in the manual before the installation.
- There are no user-serviceable parts inside this product. **DO NOT** disassemble or attempt to repair the inverter.
- **ONLY 12V Battery Banks** are suitable for the inverters.
- The product is used with a permanent power source (battery). Input and/or output terminals may still be dangerously energized, even when the product is switched off. ALWAYS make sure the inverter is **in the OFF position** and **disconnect all AC and DC connections** before carrying out maintenance or servicing the product.
- Consult the battery manufacturer's information to ensure that the product is intended for use with the battery. Carefully check the specific requirements of the batteries used in the system and always follow the battery manufacturer's safety instructions.
- Never use the product where there is a risk of gas or dust explosions.

Installation

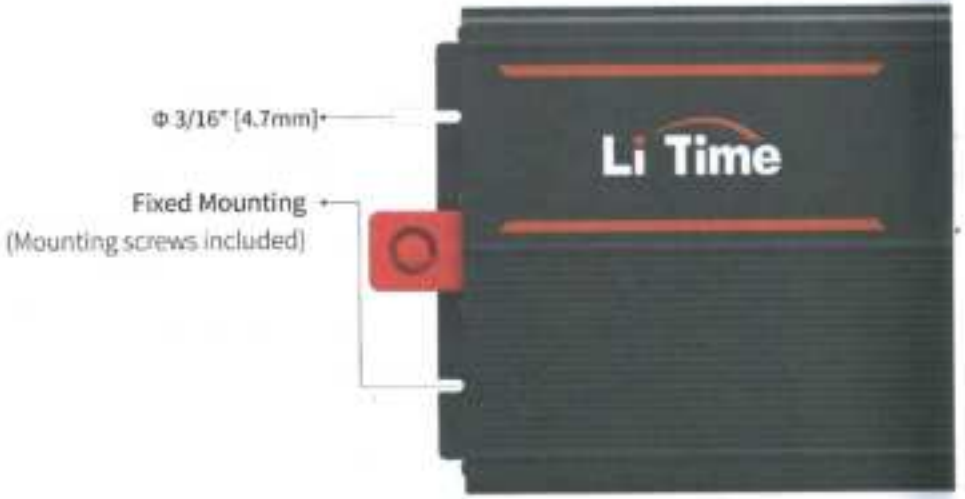
- It is recommended that the DC and AC input cables be fused and fitted with circuit breakers.
- Before applying power, ensure that the available power source matches the product configuration settings described in the manual.
- The product should be installed in a well-ventilated, cool, and dry environment. Make sure there is adequate ventilation space around the product and check that the vents are not blocked.
- After installation, check whether all wiring connections are tight and reliable to avoid the danger of heat accumulation due to loose connections.

If you have any questions or need any help, please feel free to contact us (and leave your contact phone number) at service@litime.com, we will offer phone or email support in 12hrs.

PRODUCT OVERVIEW

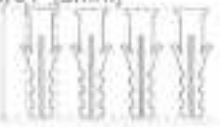
LiTime 3000W Pure Sine Wave Inverter

Continuous Power	3000W
Input Voltage	12V DC
Output Voltage	110-120V AC



ADDITIONAL COMPONENTS

Additional components are included in the package.

Accessories	Size	Image
Battery to Inverter Cables*4	4AWG 1.64FT[50cm], M8 Wire Lugs	
Ground Cable*1	3.28FT[100cm]	
Remote Control*1	4.53 * 2.28 * 1.38in 11.5 * 5.8 * 3.5cm	
Remote Control Cable*1	14.76FT[450cm]	
Remote Control Mounting Screws*2/ Plastic Anchors*2	Mounting Screws: Φ1/8"[3mm]*L0.79"[20mm]	Φ1/8" [3mm] 0.79" [20mm] 
	Plastic Anchors: 9/32"[7mm]*L1.18"[30mm]	1.18" [30mm]  9/32" [7mm]
Inverter Mounting Screws*4/Plastic Anchors*4	Mounting Screws: Φ5/32"[4mm]*L1"[25mm]	Φ5/32" [4mm] 1" [25mm] 
	Plastic Anchors: Φ13/64"[5mm]*L1"[25mm]	Φ13/64" [5mm] 1" [25mm] 

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INVERTER PARTS

Identification of Parts

AC Side

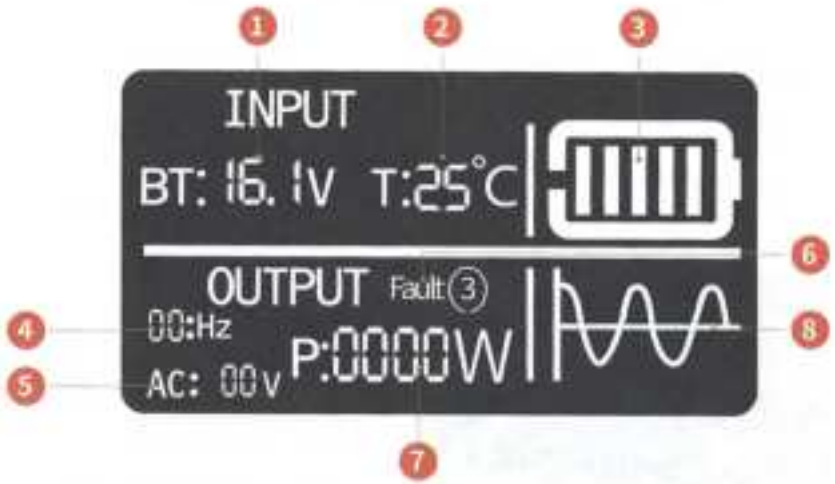
No.	Item
1	High Output AC Terminals (30A)①
2	Ground Terminal
3	AC Outlets (110-120V AC, 60Hz)
4	USB Output (5V DC, 2.4A)
5	LED Indicators
6	ON/OFF Switch
7	Remote Control Port

DC Side

No.	Item
8	Cooling Fans
9	Positive Terminal
10	Negative Terminal

① L: Live; N: Neutral; G: Ground. These terminals are for connecting 115V AC devices that require more than 20 amps to operate or for connection to distributed wiring that has multiple AC outlets. Any AC output wiring that is directly connected must comply with US National Electric Code (NEC) wiring gauge recommendations.

LCD Screen



No.	Item
1	DC Input Voltage
2	Temperature
3	Battery Remaining Capacity
4	Frequency
5	AC Output Voltage
6	Error Code
7	Output Power①
8	Output Waveform

① The LCD screen will accurately display output power greater than 300W while displaying "P:000W" for power less than 300W.

INSTALLATION

- The product should be installed by a qualified electrician.
- Make sure the inverter is in the off position before connecting anything.

Choosing Location

Make sure the installation complies with the following guidelines.

- **In a well-ventilated, cool, and dry environment**
  The product must be installed in an area protected from direct sunlight, high temperatures, and water. Make sure there is sufficient room for wiring and ventilation clearance from the DC and AC sides of the product. Clearance should be at least 10 inches [25cm].

- **As close to the battery as possible.**
  Keep the product and battery as close as possible to minimize cable voltage loss and choose a proper wire size to connect the product and battery.

- **Securely placed or mounted.**
  This product could be stand-alone, or wall-mounted both horizontally and vertically. Horizontal mounting is preferred for optimum cooling.
  Never place the inverter vertically on a vertical surface since this could block the fan opening, which is essential for the inverter's cooling.

Sizing a Battery Bank

The selection of the battery bank can be calculated to reach a suitable conclusion.

Data to be Confirmed	The **rated power(W)** of the load[1] to be run.
	Expected runtime(Hrs) of the load.
	The **nominal voltage of the** selected **battery** type and voltage.
Reference Calculation Formula	Energy(Wh)=Load Power(W)*Runtime(Hrs)/ Inverter Efficiency[2]
	Capacity(Ah)=Energy(Wh)/ Battery Nominal Voltage(V)

① The rated power(W) of the load should be less than the continuous power supported by the inverter (3000W for this product).

② Inverter Efficiency=Inverter Output Power/Inverter Input Power, 85% is the usual conversion efficiency of the product under normal conditions.

For LiTime lithium batteries and this inverter, the battery bank will be 12 volts direct current (12 VDC) with 12.8V nominal voltage.

Example	
○ 1000W Load(s)	1000W*3Hrs/85%≈3529Wh 3529Wh/12.8V≈276Ah
○ 3Hrs runtime/day	
○ 12.8V lithium battery	

To use the 1000W load(s) for 3 hours per day, at least a 12V (12.8V) 276Ah lithium battery should be selected on an everyday battery fully charged basis.

If there are different requirements for the time to fully charge the battery, the calculation method will be more complicated. Please feel free to contact us at service@litime.com for a free recommendation of a customized solution.

Connecting to A Battery Bank

- This product is ONLY suitable for a 12V battery bank. Failure to comply with the proper DC voltage will cause irreversible damage to the product.
- Avoid direct contact between the terminals of the positive and negative wires connected to the battery, and do not reverse the positive and negative connections. Damage to the LiTime inverter and battery due to reverse polarity is NOT covered by warranty.

Step 1 Connect the included wires to the battery terminals.

Step 2 Make sure the ON/OFF switch is in the OFF position.

Step 3

Remove the protective caps and covers on the terminals, and unscrew the parts connected to the bolts.

Step 4

Attach the wire lug and parts to the bolts in the following sequence: Wire Lug ➡ Flat Gasket ➡ Spring Gasket ➡ Nut.

Use a torque wrench to tighten the nuts to the bolts under the 7 N·m to 9 N·m setting to connect the wires to the inverter,

⊕ to ⊕ ⊖ to ⊖

Step 5

Put on the protective covers and screw on the protective caps.

Step 6

Turn ON the inverter power, the monitoring screen will light up assuming proper battery connection, and the inverter is now ready for use.

Connecting to Devices

- Make sure the inverter is in the OFF position before connecting loads (electronic devices) to the AC outlets.
- Avoid switching on the inverter with the load already turned on. This may trigger an overload since some electronic devices have an initial high power surge to start.
- Be sure to turn off all loads first before switching off the inverter. Even if the inverter is turned off, the capacitors will still have a charge, so the DC and AC terminals must be disconnected if altering the circuitry.

SPECIFICATIONS

Parameter	Value
Continuous Power	3000W
Peak of Surge Power	6000W
Input Voltage Range (VDC)	9.5V-16.5V DC
Output Voltage	110V AC ± 10%
Frequency	60Hz
Efficiency	85% to 95%
Low Voltage Protection	9.5 ± 0.5V DC
Over Voltage Protection	16.5 ± 0.5V DC
Operating Temperature	-13°F to 149°F / -25°C to 65°C
Dimensions (L * W * H)	18.31 * 7.40 * 3.94 inch 465 * 188 * 100 mm
Weight	13.23 lbs / 6 kg

TROUBLESHOOTING

Error Code	Potential Issue	Solutions
Fault 2 (Alarm beeps)	Input voltage is below 10.0±0.5V	Keep input voltage above 12.5±0.5V
Fault 3 (Red LED lit)	Input voltage is above 16.5V±0.5V	Keep input voltage below 14.0±0.5V
Fault 4 (Red LED lit)	Input voltage is below 9.5±0.5V	Keep input voltage above 12.5±0.5V
Fault 5 (Alarm beeps)	Overload warning	Reduce the load power
Fault 6 (Red LED lit)	Overload protection	
Fault 7 (Red LED lit)	The temperature is above 149°F/65°C	1. To cool down inverter 2. Check for adequate venting 3. Reduce the load on inverter
Fault 8 (Red LED lit)	Short circuit	Disconnect and check the load, make sure the load well, reconnect it then restart the inverter
No output voltage	Switch off	Turn on the switch①
	Poor connections with the battery	Make sure the connection well

① If the inverter stops working due to lithium battery over-discharge protection, charge the battery and restart the inverter to resume power.

If the problem cannot be resolved or you need any help, please contact us at service@litime.com.