



2000W

(12VDC | 110-120VAC)

PRODUCT MANUAL



Pure Sine Wave Power Inverter

www.litime.com





UNITED STATES

◀  Register Warranty

 www.litime.com

 service@litime.com

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

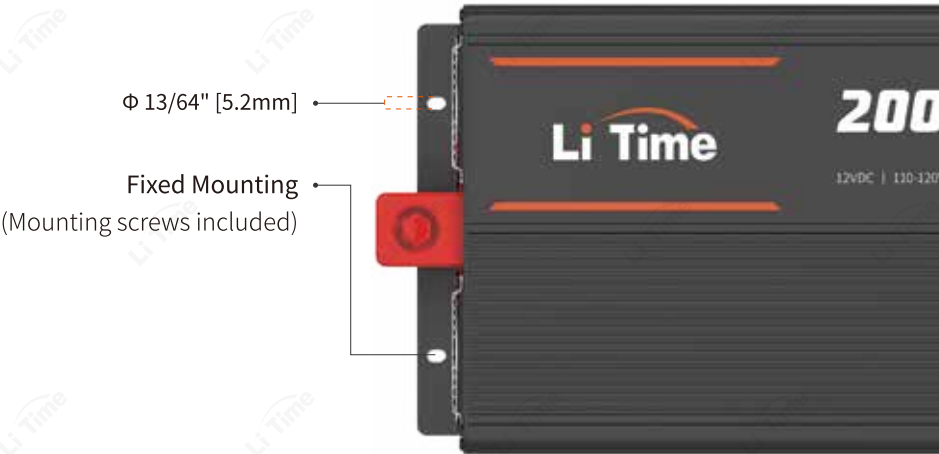
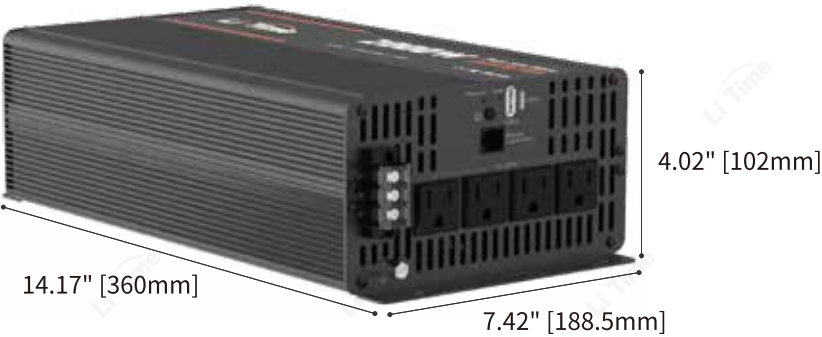
- It is recommended that the DC input cable be fused and fitted with circuit breaker.
- Before applying power, ensure that the available power source matches the product configuration settings described in the manual.
- The product should be installed in a well-ventilated, cool, and dry environment. 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

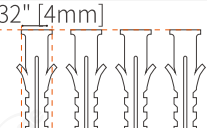
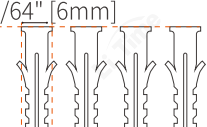
LiTime 2000W Pure Sine Wave Inverter

Continuous Power	2000W
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*2	1.64FT [50cm]	
Ground Cable*1	3.28FT[100cm]	
Remote Control Cable*1	14.76FT[450cm]	
Remote Control*1	4.41 * 3.11 * 1.14 inch [11.2 * 7.9 * 2.9cm]	 3.11"[7.9cm] 1.14"[2.9cm] 4.41"[11.2cm]
Bracket*2 (attach on both sides of the remote control)	3.15 * 1.10 inch [80 * 28mm]	 3.15"[80mm] 1.10"[28mm]
Bracket Mounting Screws*4 (fix the bracket on the remote control)	Φ1/8"[3mm]*L15/64" [6mm]	 Φ1/8" [3mm] 15/64" [6mm]
Remote Control with Bracket Mounting Screws*4/ Plastic Anchors*4	Mounting Screws: Φ1/8"[3mm]*L0.79" [20mm]	 Φ1/8" [3mm] 0.79" [20mm]
	Plastic Anchors: Φ5/32"[4mm]*L0.79" [20mm]	 Φ5/32" [4mm] 0.79" [20mm]
Inverter Mounting Screws*4/Plastic Anchors*4	Mounting Screws: Φ13/64"[5mm]*L0.98" [25mm]	 Φ13/64" [5mm] 0.98" [25mm]
	Plastic Anchors: Φ15/64"[6mm]*L1.18" [30mm]	 Φ15/64" [6mm] 1.18" [30mm]



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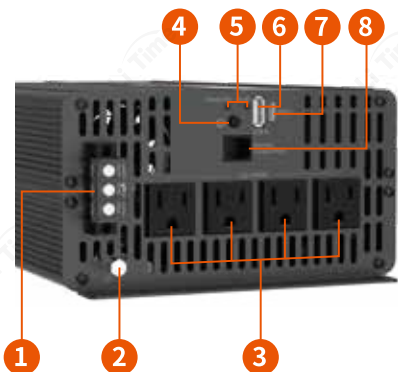
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IDENTIFICATION OF PARTS

Inverter

AC Side

No.	Item
-----	------



- 1 High Output AC Terminals^① (110-120V AC, 60Hz)
- 2 Ground Terminal
- 3 AC Outlets^② (110-120V AC, 60Hz)
- 4 ON/OFF Switch
- 5 LED Indicators
- 6 USB-A Output (5V/2.4A)
- 7 USB-C Output (5V/3A, 9V/2A, 12V/1.5A)
- 8 Remote Control Port

DC Side

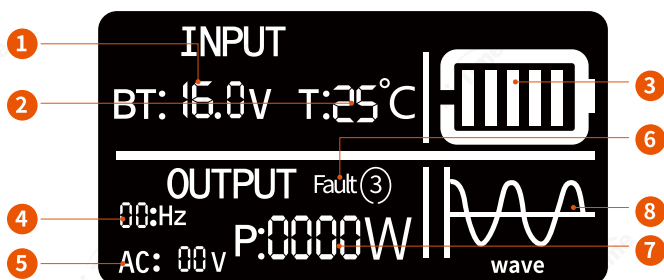
No.	Item
-----	------

- 9 Cooling Fans
- 10 Positive Terminal
- 11 Negative Terminal



- ① L: Live; N: Neutral; G: Ground. These terminals are for connecting 120V AC devices within **1000W-2000W** to operate or connect to distributed wiring with multiple AC outlets. Any AC output wiring that is directly connected must comply with US National Electric Code (NEC) wiring gauge recommendations.
- ② It is recommended that the AC devices connected to each outlet be **around 1000W** for safety and to ensure the entire power of all connected **AC devices is within 2000W**.

Inverter Remote Control



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 Power
8	Output Waveform

Button



No.	Function
9	Turn On/Off the Inverter
10	Light the LCD Screen

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.



VERTICAL



HORIZONTAL
☆ (Recommended)

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	$\text{Energy(Wh)} = \text{Load Power(W)} * \text{Runtime(Hrs)} / \text{Inverter Efficiency}^{②}$
	$\text{Capacity(Ah)} = \text{Energy(Wh)} / \text{Battery Nominal Voltage(V)}$

① The rated power(W) of the load should be less than the continuous power supported by the inverter (2000W 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 (12V DC) with 12.8V nominal voltage.

Example	
○ 1000W load(s)	$1000\text{W} * 3\text{Hrs} / 85\% \approx 3529\text{Wh}$ $3529\text{Wh} / 12.8\text{V} \approx 276\text{Ah}$
○ 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 M8 wire lugs of the included battery to inverter cables to the battery terminals, **+** to **+** **-** to **-**



Step

2

Make sure the inverter 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 M6 wire lugs of the included battery to inverter cables and parts to the bolts in the following sequence: Wire Lug $\Rightarrow$ Flat Gasket $\Rightarrow$ Spring Gasket $\Rightarrow$ 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 screws on the protective caps.



Step
6

Connect the inverter's remote control port to the remote control using the included remote control cable.



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.
- Turn ON the inverter power after connecting loads, the "Power On" will light up and the LCD screen of the remote control will display the real-time data assuming proper battery connection, and **the inverter is now ready for use.**
- 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	2000W
Peak of Surge Power	4000W
Input Voltage Range	10.5V to 16.0V DC
Output Voltage	120V AC $\pm$ 10%
Frequency	60Hz
Efficiency	$\geq$ 90%
Low Voltage Protection	10.5 $\pm$ 0.5V DC
Over Voltage Protection	16.0 $\pm$ 0.5V DC
Operating Temperature	-4°F to 104°F / -20°C to 40°C
Dimensions (L * W * H)	With Mounting Part: 14.17 * 7.42 * 4.02 inch 360 * 188.5 * 102 mm
	Without Mounting Part: 12.68 * 7.42 * 3.94 inch 322 * 188.5 * 100 mm
Weight	Appr. 9.04 lbs / 4.1 kg
Recommended Inverter Terminal Torque	61.96 to 79.66 inch · lbs/7 to 9 N · m
Recommended Wire Size	1AWG/40mm ²

TROUBLESHOOTING

Error Code/ Status	Potential Issue	Solutions
Fault 2 (Alarm beeps)	Input voltage is below $11.0 \pm 0.5V$	Keep input voltage above $12.5 \pm 0.5V$
Fault 3 (Red LED lit)	Input voltage is above $16.0 \pm 0.5V$	Keep input voltage below $14.0 \pm 0.5V$
Fault 4 (Red LED lit)	Input voltage is below $10.5 \pm 0.5V$	Keep input voltage above $12.5 \pm 0.5V$
Fault 6 (Red LED lit)	Overload protection	Reduce the load power
Fault 7 (Red LED lit)	The temperature is above $149^{\circ}F \pm 9^{\circ}F$ ($65^{\circ}C \pm 5^{\circ}C$)	1. Cool down the inverter to $131^{\circ}F \pm 9^{\circ}F$ ($55^{\circ}C \pm 5^{\circ}C$) 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 switch of inverter or remote control ^①
	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.

Li Time

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