

## BELTTT BAP2000

# BELTTT 2000W Pure Sine Wave Inverter User Manual

Model: BAP2000

## 1. IMPORTANT SAFETY INSTRUCTIONS

Please read and understand all safety instructions before installing or operating the BELTTT 2000W Pure Sine Wave Inverter. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

### General Safety Precautions:

- Keep the inverter away from water, moisture, and flammable materials.
- Ensure adequate ventilation around the inverter to prevent overheating. Do not block ventilation openings.
- Do not open the inverter casing. There are no user-serviceable parts inside. Refer servicing to qualified personnel.
- Keep children away from the inverter and its connections.
- Ensure the inverter is properly grounded.
- Disconnect the battery before performing any maintenance or cleaning.

### Electrical Safety:

- Connect the inverter only to a 12V DC power source. Connecting to other voltages may cause damage.
- Observe correct polarity when connecting battery cables (Red to positive, Black to negative). Reverse polarity will damage the inverter.
- Use only the provided or appropriately sized cables for battery connections to ensure safe and efficient power transfer.
- Do not exceed the inverter's continuous power rating (2000W) or peak surge power (4000W).
- Ensure all connections are tight and secure to prevent arcing and overheating.

## 2. PRODUCT OVERVIEW

The BELTTT 2000W Pure Sine Wave Inverter converts 12V DC battery power into 110V/120V AC household power, suitable for a wide range of electronic devices and appliances. Its pure sine wave output ensures compatibility with sensitive electronics, providing stable and clean power.

### Key Features:

- **Powerful DC to AC Conversion:** Delivers 2000W continuous power and up to 4000W peak surge power.
- **Pure Sine Wave Output:** Provides clean and stable AC power, ideal for sensitive electronics like TVs, home theaters, and medical equipment.
- **Intelligent LCD Display:** Real-time monitoring of input/output voltages, battery status, load level, and error codes for easy troubleshooting.
- **Multiple Output Ports:** Features dual AC sockets, a 20A outlet, a 5V 2.1A USB port, and a hardwire port for versatile connectivity.
- **Remote Controller:** Includes a remote controller with a 23ft cable for convenient operation from a distance.
- **Advanced Safety Protections:** Built-in safeguards against undervoltage, overvoltage, overload, over temperature, short circuit, and reverse connection.
- **High Efficiency:** Conversion efficiency greater than 91% with low no-load losses.



Figure 2.1: The BELTTT 2000W Pure Sine Wave Inverter shown with its battery cables and remote control unit.



Figure 2.2: Detailed view of the inverter's front and rear panels, illustrating the AC output sockets, 20A outlet, USB port, remote controller port, LCD status monitor, DC input terminals, and intelligent cooling fans.

### 3. WHAT'S IN THE BOX

Verify that all items listed below are included in your package:

- 1 x BELTTT 2000 Watt Pure Sine Wave Inverter
- 2 x 2AWG 3Ft Battery Cables (Red and Black)
- 1 x Remote Controller with 23Ft Cable
- 1 x Thimble Spanner
- 1 x User Manual
- 6 x 45A Fuses

# WHAT IN THE BOX



Figure 3.1: All components included in the product package, such as the inverter, remote controller, battery cables, manual, wrench, thimble, and fuses.

## 4. INSTALLATION AND SETUP

### 4.1 Choosing a Location

Select a location for the inverter that is:

- Well-ventilated and dry.
- Away from direct sunlight, heat sources, and flammable materials.
- Protected from dust, dirt, and moisture.
- Securely mounted to prevent movement or damage.

### 4.2 DC Battery Connection

1. Ensure the inverter's power switch is in the OFF position.
2. Connect the **RED** battery cable to the positive (+) terminal of your 12V DC battery.
3. Connect the other end of the **RED** cable to the positive (+) DC input terminal on the inverter.

4. Connect the **BLACK** battery cable to the negative (-) terminal of your 12V DC battery.
5. Connect the other end of the **BLACK** cable to the negative (-) DC input terminal on the inverter.
6. Tighten all connections securely using the provided thimble spanner to prevent loose connections and arcing.

The inverter is compatible with various 12V battery types, including Lithium (LI), Flooded (FLD), Gel, Sealed Lead-Acid (SLD), and Absorbed Glass Mat (AGM) batteries.



Figure 4.1: The inverter shown in a vehicle trunk connected to a battery, illustrating compatibility with LI, FLD, GEL, SLD, and AGM battery types.

### 4.3 Grounding the Inverter

For safety, the inverter must be properly grounded. Connect a grounding wire (not included) from the inverter's grounding terminal to a suitable earth ground point (e.g., vehicle chassis, ground rod).

### 4.4 AC Output Connection

- Plug your AC-powered devices directly into the dual AC sockets or the 20A outlet on the front panel of the inverter.
- For higher power loads or permanent installations, utilize the hardwire port. Consult a qualified electrician

for hardwire connections.

## 4.5 Remote Controller Connection

Plug the remote controller cable into the designated remote controller port on the inverter's front panel. The remote allows for convenient power control and monitoring from a distance.

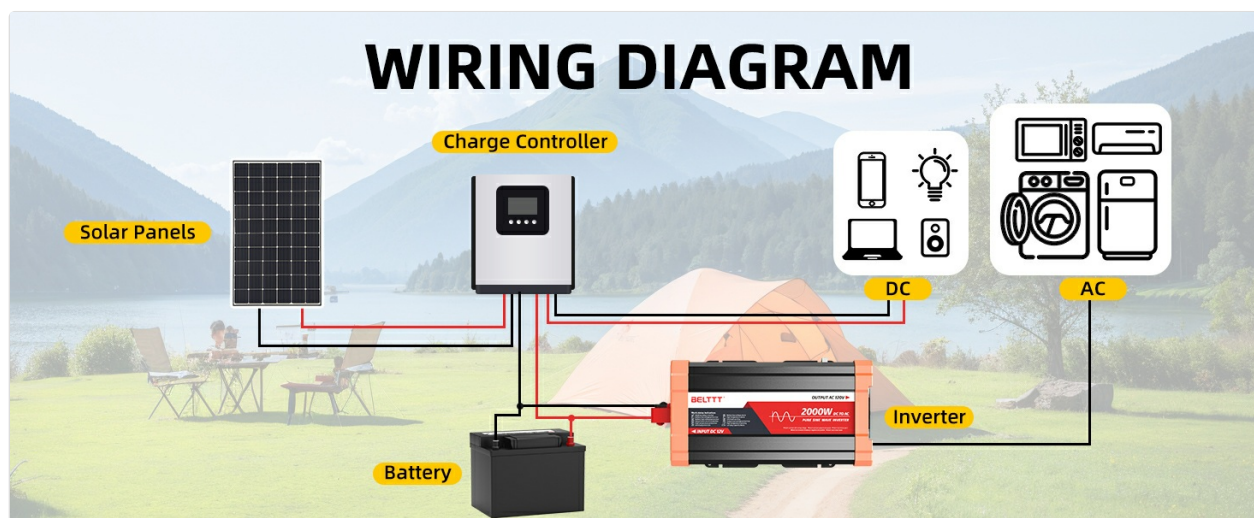


Figure 4.2: A typical wiring diagram showing the connection of solar panels, a charge controller, a battery, the BELTTT inverter, and various AC/DC loads.

## 5. OPERATION

### 5.1 Powering On/Off

After all connections are secure, turn on the inverter using the ON/OFF switch located on the inverter unit or the remote controller. The LCD display will illuminate, indicating the inverter is operational.

### 5.2 Understanding the LCD Display

The intelligent LCD display provides real-time information about the inverter's status:

- **DC Input Voltage:** Shows the current voltage from your 12V battery.
- **AC Output Voltage:** Displays the inverter's output voltage (110V/120V).
- **Battery Level:** Indicates the approximate charge level of your battery.
- **Load Level:** Shows the percentage of the inverter's capacity being used by connected AC devices.
- **Working Status/Error Codes:** Displays 'WORKING' during normal operation or a specific error code if a fault occurs.

# Powerful Display and Setup Functions

Output voltage and frequency can be adjusted in a small range using tools



Figure 5.1: The intelligent LCD display showing input DC voltage, AC output voltage, battery level, load level, and a table of error codes for quick diagnosis.

## 5.3 USB and AC Outlet Usage

- The 5V 2.1A USB port can be used to charge compatible USB devices.
- The dual AC sockets and 20A outlet provide standard AC power for your appliances. Ensure the total wattage of connected devices does not exceed the inverter's continuous power rating.

## 5.4 Output Voltage and Frequency Adjustment

The output voltage and frequency can be adjusted within a small range using specific tools. Refer to the detailed instructions in the full product manual for the precise procedure, as incorrect adjustments can affect connected devices.

## 6. TROUBLESHOOTING

The inverter's intelligent LCD display provides error codes to help diagnose issues. Refer to the table below for common error codes and their solutions:

Display Code	Description	Possible Cause / Solution
0K	Normal Working	Inverter is operating correctly.
01	Battery Low Voltage Protection	Battery voltage is too low. Recharge or replace the battery. Check battery connections.
02	Battery High Voltage Protection	Battery voltage is too high. Disconnect charging source.
03	Output Short Circuit Protection	A short circuit is detected at the AC output. Disconnect all AC loads and check for faults.
04	High Temperature Protection	Inverter is overheating. Ensure adequate ventilation, reduce load, or allow to cool down.
05	Overload Protection	Connected load exceeds inverter's capacity. Reduce the total wattage of connected devices.
06	Battery Low Voltage Alarm	Battery voltage is approaching low voltage protection threshold. Recharge battery soon.
07	High Temperature Alarm	Inverter temperature is rising. Check ventilation and load.
08	Overload Warning	Connected load is nearing overload protection threshold. Reduce load.
10	High Temperature Warning	Inverter temperature is high. Improve ventilation or reduce load.

## 7. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your inverter.

- **Cleaning:** Keep the inverter's exterior clean and free from dust. Use a dry cloth. Do not use liquid cleaners.
- **Ventilation:** Periodically check that the ventilation openings are clear and not obstructed by dust or debris.
- **Connections:** Regularly inspect all DC and AC connections to ensure they remain tight and secure. Loose connections can cause overheating and damage.
- **Fuses:** The inverter is equipped with internal fuses for protection. If a fuse blows, it indicates a significant fault. While spare fuses are provided, fuse replacement should only be performed by a qualified technician.

## 8. SPECIFICATIONS

Feature	Specification
Model Number	BAP2000

Feature	Specification
Continuous Wattage	2000W
Peak Surge Wattage	4000W
Input Voltage	12V DC
Output Voltage	110V - 120V AC
Output Waveform	Pure Sine Wave
Conversion Efficiency	> 91%
USB Output	5V 2.1A
Product Dimensions	14.7 x 7.7 x 3.9 inches
Item Weight	11.11 pounds
Recommended Uses	Outdoor, Camping, Home, RV, Truck, Off-grid Solar Power
Power Source	Solar and Battery Powered

## 9. WARRANTY AND SUPPORT

The BELTTT 2000W Pure Sine Wave Inverter is designed for reliability and performance. For warranty information, technical support, or any questions regarding your product, please contact BELTTT customer service through the official channels provided at the time of purchase or on the manufacturer's website.