

DATOUBOSS DT4811B

DATOUBOSS 11KW 48V Hybrid Pure Sine Wave Inverter Instruction Manual

Model: DT4811B | Brand: DATOUBOSS

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your DATOUBOSS 11KW 48V Hybrid Pure Sine Wave Inverter. Please read this manual thoroughly before installation and use to ensure proper function and safety. Keep this manual for future reference.



Figure 1: DATOU BOSS 11KW Hybrid Pure Sine Wave Inverter units.

2. KEY FEATURES

- **High Power Output:** 11KW 48V DC to 230V AC pure sine wave hybrid inverter.
- **Integrated MPPT:** Features two built-in 160A MPPT charge controllers.
- **Flexible Connectivity:** Supports parallel operation of up to 9 units and grid connection.
- **Advanced Display:** Equipped with an LCD display for real-time system data and operational status.
- **Configurable Settings:** Input voltage range and AC/solar charger priority can be configured via LCD settings.
- **Power Statistics:** View power statistics and analysis, with data storage for extended periods, even without Wi-Fi connection.
- **Multiple Priority Modes:** Three selectable priority modes: grid priority, solar priority, and battery priority, ensuring continuous power supply.
- **Pure Sine Wave Output:** Provides stable, high-quality AC power for sensitive electronics.
- **Comprehensive Protection:** Includes short circuit, overcurrent, overvoltage, undervoltage,

overtemperature, overload, and fuse reverse connection protection.

- **Battery Management:** Supports lithium battery activation function and regular charging/discharging to extend battery life.
- **Dual Output Ports:** Connects to two sockets, one for common output and the other for backup.
- **Wide Application:** Suitable for RVs, camping boats, home emergencies, and various appliances like stoves, rice cookers, lamps, TVs, and fans.

3. PACKAGE CONTENTS

Upon opening the package, verify that all items listed below are present and undamaged. If any items are missing or damaged, please contact your dealer immediately.

- DATOUBOSS 11KW Hybrid Inverter Unit
- Mounting Screws and Accessories
- Communication Cables (USB, RS232, RS485)
- User Manual

Video 1: Unboxing the DATOUBOSS 11KW Hybrid Inverter, showing the unit and included accessories.

4. PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the inverter's physical layout and connection points.

DATOUBOSS 11000W Solar Hybrid Inverter



*Pure sine wave inverter

*LCD display

*Can be connected in parallel or grid-connected, up to 9 units can be in parallel

*Built-in 2 MPPT, bidirectional MPPT module

*Can be charged and discharged regularly to improve battery life

*With lithium battery activation function

*Fuse reverse connection protection

*Built-in multiple protection functions

*Can set 3 priority modes such as AC priority, solar priority, battery priority

*Built-in parallel line, current balancing line, dynamic monitoring balance

*Support power statistics, even if not connected to WIFI, you can view power statistics analysis, power statistics data can be stored for a long time

*With two output ports, can connect 2 sockets, one can be used as a common output and the other as a backup output

Figure 2: Rear panel view of the DATOUBOSS Inverter, highlighting various input and output ports.

Front Panel:

- **LCD Display:** Shows system data and operational status.
- **Status Indicators:** AC/INV (AC/Inverter), CHG (Charging), FAULT (Error).
- **Function Keys:** ESC, UP, DOWN, ENTER for navigation and settings adjustment.

Rear Panel Connections:

- **PV1 & PV2 Inputs:** For connecting solar panel arrays.
- **AC Input:** For connecting to the utility grid or generator.
- **Main Output:** Primary AC output for loads.
- **Second Output:** Secondary AC output for loads.
- **RS232 & RS485 Ports:** For communication and monitoring.
- **Parallel Connection Port:** For connecting multiple inverters in parallel.
- **Dry Contact:** For external control or signaling.
- **DC Input:** For connecting to the battery bank.
- **Power ON/OFF Switch:** To power the unit on or off.

Figure 3: Detailed view of the inverter's rear panel, showing all connection points and their labels.

5. SPECIFICATIONS

The following table outlines the technical specifications for the DATOUBOSS DT4811B Hybrid Inverter:

Parameter	Value
Model	DT4811B
Capacity	11000VA/11000W
Operating Temperature Range	-10~50°C
Protection Degree	IP21
DC Input (Battery)	48VDC, 254.6A
AC Output	230VAC, 50/60Hz, 47.8A, 1Φ
AC Charger	54VDC, 150A
AC Input (Grid/Generator)	230VAC, 50/60Hz, 60A, 1Φ
Solar Panel Power	2x5500W
Max Charging Current (Solar)	150A
Solar Voltage Range (Vmp)	90-500VDC
Best Voltage Range (Vmp)	300-400VDC
Max Solar Voltage	500VDC
Weight	19.2 Kilograms
Dimensions	70.8 x 57 x 24.1 cm
Serial Number (Example)	20241020 0476

Detailed parameters



Figure 4: Product label displaying detailed technical parameters and serial number.

6. SETUP AND INSTALLATION

Safety Warning: During any installation or maintenance operation, please ensure the power supply is completely turned off to prevent electric shock or damage to the equipment.

6.1 Battery Connection

1. Remove the side panel of the inverter to access the battery terminals.
2. Connect the positive (red) battery cable to the inverter's positive (+) DC input terminal.
3. Connect the negative (black) battery cable to the inverter's negative (-) DC input terminal.
4. Ensure correct polarity before tightening the connections. Verify that all wiring is secure.

6.2 AC Input and Output Connections

1. Connect the AC input wires (Live, Neutral, Ground) to the designated AC Input terminals on the inverter.
2. Connect the main AC output wires (Live, Neutral, Ground) to the Main Output terminals.
3. If using, connect the second AC output wires to the Second Output terminals.

4. It is recommended to install an appropriate fuse or circuit breaker for both AC input and output lines for protection.

6.3 Solar Panel Connection

Connect your solar panel arrays to the PV1 and PV2 inputs. Ensure the total voltage and current from your solar panels do not exceed the inverter's maximum ratings (Max Solar Voltage: 500VDC, Max Charging Current: 150A).

Video 2: Demonstrates battery and AC wiring connections, emphasizing safety and correct polarity.

7. OPERATING INSTRUCTIONS

After all connections are securely made, you can power on the inverter and configure its settings using the LCD display and function keys.

7.1 Powering On/Off

1. Ensure all wiring is correct and secure.
2. Turn on the DC input breaker (if installed) for the battery.
3. Flip the Power ON/OFF switch on the inverter to the 'ON' position.
4. The LCD display will light up, and the inverter will initiate its startup sequence.

7.2 LCD Display and Navigation

The LCD display provides real-time information and allows for system configuration. Use the function keys (ESC, UP, DOWN, ENTER) to navigate through menus and adjust settings.

- **ESC:** Exits the current menu or setting.
- **UP/DOWN:** Navigates through menu options or adjusts values.
- **ENTER:** Selects an option or confirms a setting.

Refer to the detailed user manual for specific menu structures and parameter settings, including output voltage range, charger priority (AC/solar), and battery type configuration.

8. PARALLEL OPERATION

The DATOUBOSS 11KW Hybrid Inverter supports parallel operation of up to 9 units to increase overall power capacity. This feature allows for scalable power solutions tailored to specific energy demands.

Appearance Description

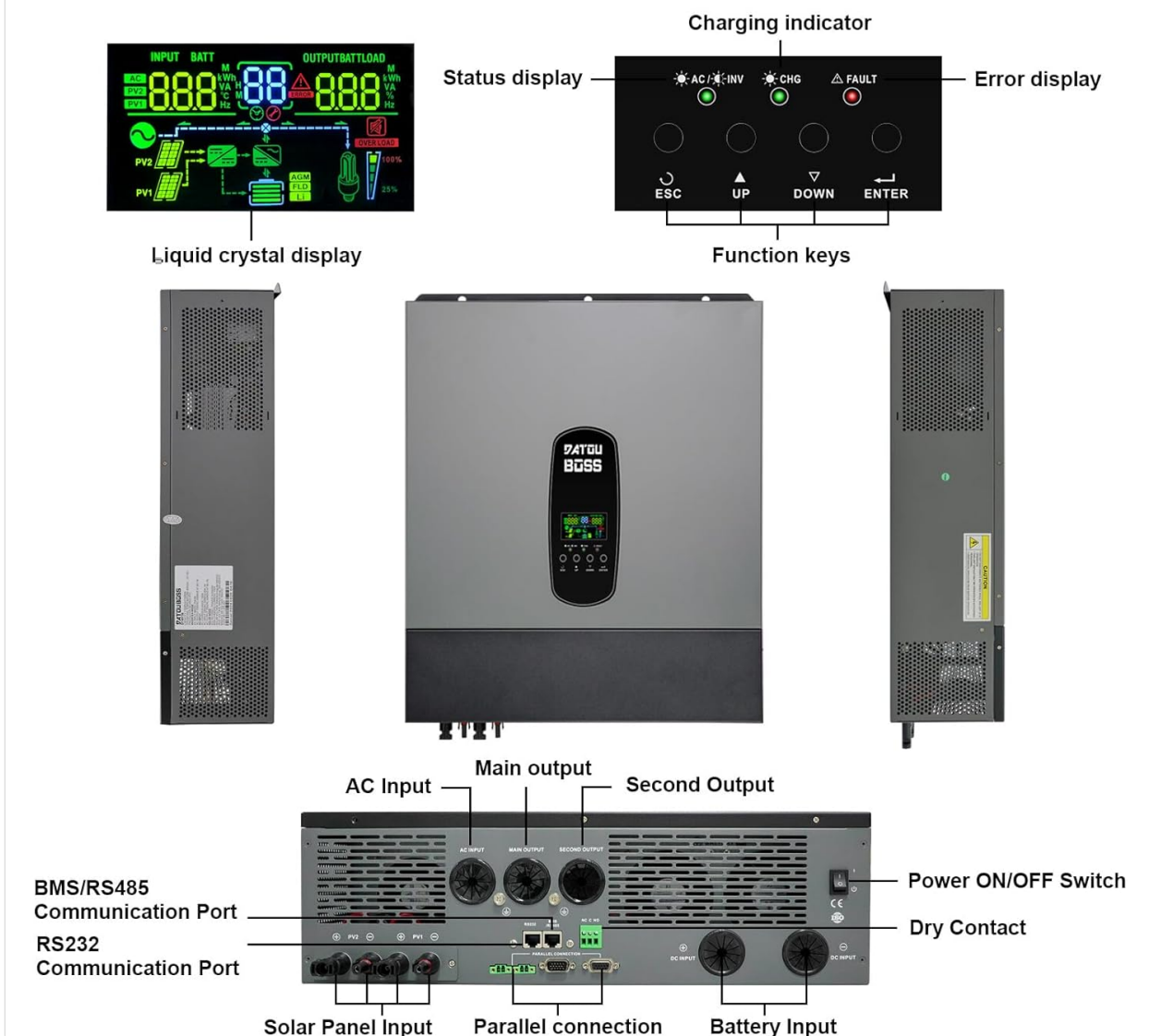


Figure 5: Diagrams illustrating the wiring for two and three inverters in parallel, including communication connections.

For detailed instructions on parallel connection, including wiring diagrams and configuration steps, please consult the comprehensive user manual provided with your inverter. Proper communication cabling and settings are crucial for stable parallel operation.

9. BATTERY-FREE OPERATION

This hybrid inverter supports battery-free operation, allowing it to be powered directly from photovoltaic (PV) modules to supply alternating current for homes or other loads without the need for batteries. This feature offers greater flexibility in system design and can reduce initial investment or battery usage.

9.1 How Battery-Free Operation Works:

- **Direct PV Power:** The inverter directly converts DC power from the PV modules into AC power for connected loads.
- **Grid-Assisted Supply:** If PV generation is insufficient to meet load demand, the system can draw

energy from the grid to ensure continuous power supply.

9.2 Advantages:

- **Reduced Initial Costs:** Operate the system without batteries initially, adding them later if needed.
- **Improved System Flexibility:** Direct use of solar power during peak generation, reducing grid dependence.
- **Reduced Battery Loss:** Extends battery life by skipping battery usage when solar power is abundant.

9.3 Limitations and Precautions:

- **No Power Supply at Night:** In battery-free mode, there is no power supply from the inverter at night or on cloudy days if there is no grid access.
- **PV Generation Fluctuations:** Load power supply may be affected by unstable solar generation (e.g., cloudy weather).

9.4 Applicable Scenarios:

- Daytime peak electricity users.
- Industrial and agricultural pumping stations in areas with sufficient sunlight.

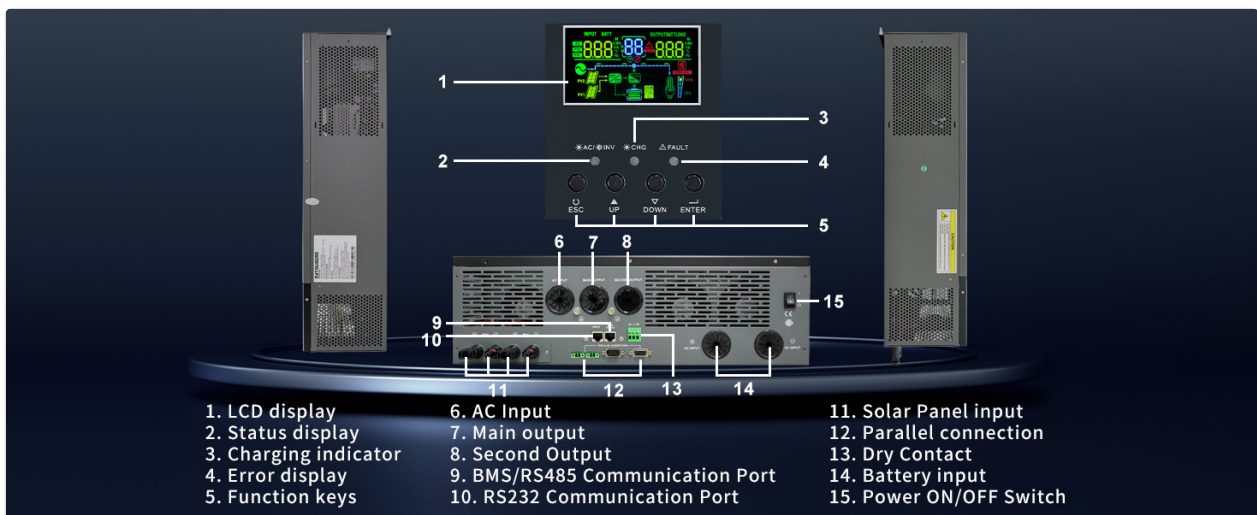


Figure 6: Visual explanation of battery-free operation, its benefits, and how it functions.

DATOUBOSS 48V 11KW pure sine wave hybrid solar inverter

- *Can be connected in parallel or grid-connected, up to 9 units can be connected in parallel
- *Built-in 2 MPPT, bidirectional MPPT module
- *Can be charged and discharged regularly to improve battery life
- *Support power statistics, even if not connected to WIFI, you can view power statistics analysis, and the power statistics data can be stored for a long time
- *Built-in parallel line, current balancing line, dynamic monitoring balance
- *Can set 3 priority modes such as AC priority, solar priority, and battery priority
- *With lithium battery activation function
- *Fuse reverse connection protection
- *With two output ports, can connect 2 sockets, one can be used as a common output and the other as a standby output

- *Pure sine wave inverter
- *Configure the input voltage range for home appliances and personal computers through LCD settings
- *Configure the battery charging current according to the application through LCD settings
- *Through LCD Set configurable AC/solar charger priority
- *Compatible with mains or generator power
- *Automatic restart when AC power is restored
- *Built-in multiple protection functions, overload/over temperature/short circuit protection, etc.
- *Intelligent battery charger design to optimize battery performance
- *Cold start function

Figure 7: Summary of advantages, limitations, and applicable scenarios for battery-free operation.

10. PROTECTION FEATURES

The DATOUBOSS 11KW Hybrid Inverter is equipped with multiple protection functions to ensure safe and reliable operation of your system and connected appliances.



Figure 8: Overview of the inverter's comprehensive 360-degree protection features.

- **Short Circuit Protection:** Prevents damage from short circuits in the output.
- **Over-Load Protection:** Shuts down the inverter if the connected load exceeds its capacity.
- **Over Current Protection:** Safeguards against excessive current flow.
- **Backfill Protection:** Prevents reverse current flow.
- **Over Voltage Protection:** Protects against excessively high voltage levels.
- **Over-Temperature Protection:** Shuts down the unit if internal temperatures become too high.
- **Under Voltage Protection:** Prevents damage from excessively low voltage levels.
- **Over Charge Protection:** Protects batteries from overcharging.

11. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your inverter.

- **Cleaning:** Periodically clean the inverter's exterior and ventilation openings to prevent dust accumulation, which can hinder cooling. Use a dry, soft cloth.
- **Connection Checks:** Regularly inspect all electrical connections (battery, AC, solar) for tightness and signs of corrosion. Tighten any loose connections.
- **Environmental Conditions:** Ensure the inverter is operated within its specified temperature range (-10~50°C) and in a well-ventilated area.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates to ensure optimal performance and access to new features.

12. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For more complex problems, please contact customer support.

Common Issues and Solutions:

- **Inverter Not Turning On:**
 - Check battery connections for proper polarity and tightness.
 - Verify the battery voltage is within the operating range.

- Ensure the Power ON/OFF switch is in the 'ON' position.
- **No AC Output:**
 - Check AC output wiring and circuit breakers.
 - Verify that the inverter is not in fault mode (FAULT indicator).
 - Check for overload conditions; reduce connected loads.
- **Charging Issues:**
 - For solar charging, check solar panel connections and ensure sufficient sunlight.
 - For AC charging, verify AC input connection and grid power availability.
 - Check charging settings on the LCD display.
- **Error Codes on LCD:**
 - Refer to the detailed user manual for a list of error codes and their corresponding solutions.

13. WARRANTY AND SUPPORT

DATOUBOSS is committed to product quality and customer satisfaction.

- **Warranty:** This product comes with a 5-year warranty.
- **Customer Service:** We provide 24-hour professional customer service.
- **Contact:** If you have any product-related questions or require technical assistance, please do not hesitate to contact us through the Amazon reserved area. We have a specialized technical service team available to assist you.



Figure 9: Icons representing 10 years lifespan, 5 years guarantee, 24 hours response, and local warehouses.