

## DATOUBOSS DT-1218-A-EU

# DATOUBOSS 1800W 12V Pure Sine Wave Hybrid Solar Inverter User Manual

Model: DT-1218-A-EU

## 1. INTRODUCTION

Thank you for choosing the DATOUBOSS 1800W 12V Pure Sine Wave Hybrid Solar Inverter. This device is designed to provide reliable and stable power for various applications, including RVs, camping, home emergency power, and off-grid systems. It integrates a powerful 1800W pure sine wave inverter with an advanced MPPT solar charge controller, ensuring efficient energy conversion and comprehensive protection for your sensitive electronics and battery systems.



Figure 1.1: Overview of the DATOUBOSS 1800W Hybrid Solar Inverter, highlighting its key features such as 1800W output, 12Vdc rated power, MPPT charging, 30-240Vdc MPPT input range, 2500W maximum PV input power, 15A maximum PV input current, and 100A maximum charging current.

Key features include:

- **1800W Pure Sine Wave Output:** Delivers clean and stable AC power, suitable for sensitive electronic devices.
- **Integrated MPPT Solar Charge Controller:** Optimizes solar panel performance, increasing charging efficiency by up to 30%.
- **Intuitive LCD Display:** Provides real-time monitoring of voltage, power, battery status, and system operation.

- **Comprehensive BMS Protection:** Includes safeguards against short circuit, overcurrent, overvoltage, undervoltage, overtemperature, and overload.
- **Battery Compatibility:** Supports various battery types, including lead-acid, AGM, gel, and lithium (LiFePO4) batteries.
- **Versatile Applications:** Ideal for off-grid setups, emergency power, and mobile applications.

## 2. SAFETY INSTRUCTIONS

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Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Qualified Personnel:** Installation and maintenance should only be performed by qualified personnel.
- **Ventilation:** Ensure adequate ventilation around the inverter to prevent overheating. Do not block ventilation openings.
- **Environment:** Install the inverter in a dry, cool, and well-ventilated area, away from direct sunlight, heat sources, flammable materials, and corrosive gases. The inverter is not waterproof and is recommended for indoor waterproof environments.
- **Battery Safety:** Always connect batteries with correct polarity. Use appropriate battery cables and fuses. Do not short-circuit battery terminals.
- **Grounding:** The inverter must be properly grounded.
- **Disconnection:** Before performing any maintenance or wiring, ensure all power sources (solar, utility, battery) are disconnected.
- **Children:** Keep the device out of reach of children.

## 3. PRODUCT OVERVIEW

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Familiarize yourself with the components and interfaces of your DATOUBOSS hybrid solar inverter.

# DETAILED SPECIFICATIONS

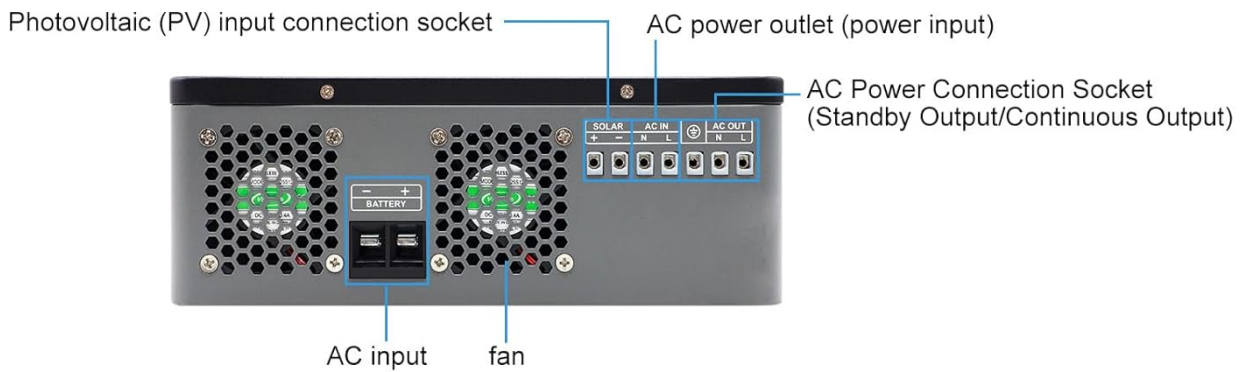
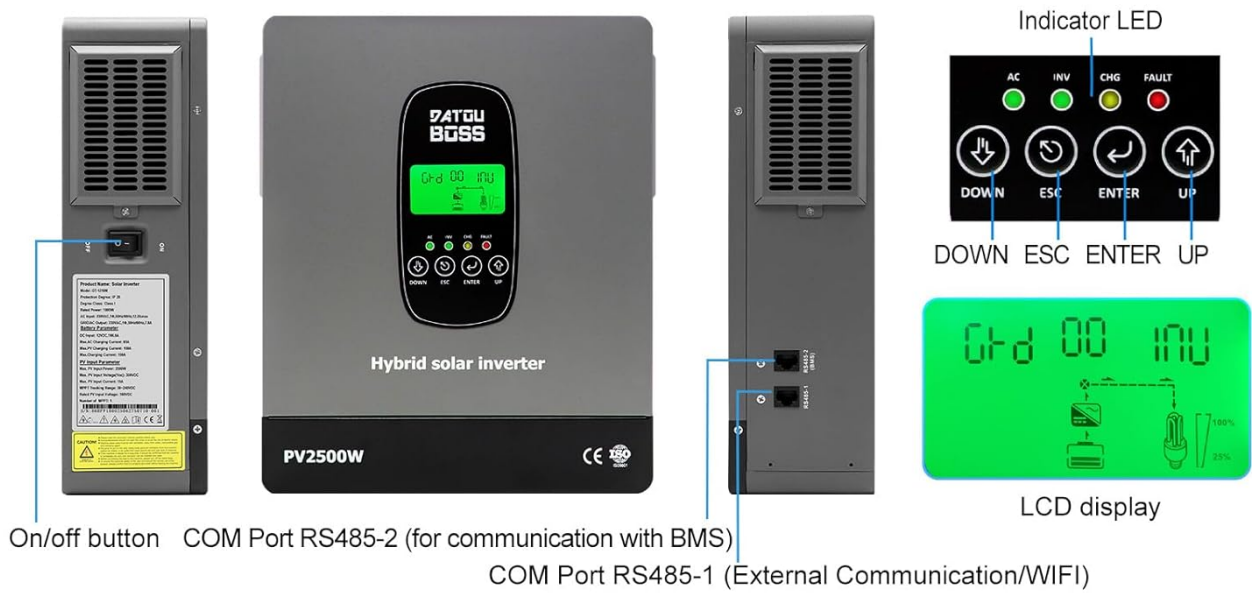


Figure 3.1: Front, Side, and Rear View of the Inverter with Labeled Ports and Display. This image shows the overall design, including the LCD display, control buttons, on/off switch, communication ports (COM Port RS485-2 for BMS, COM Port RS485-1 for External Communication/WiFi), photovoltaic input, AC input, AC output, and cooling fans.

## DETAILED PARAMETERS



Figure 3.2: Detailed view of the inverter's front panel, side ports, and rear connections. This image highlights the Power ON/OFF Switch, RS485-1 and RS485-2 communication interfaces, LED indicators (AC, INV, CHG, FAULT), LCD Display, Function Buttons (DOWN, ESC, ENTER, UP), Battery Terminal Port, AC Output Terminal, Earth Terminal, and PV Input Terminal Port.

### 3.1. Dimensions and Weight



Figure 3.3: Physical dimensions of the inverter. The unit measures approximately 250mm (width) x 333mm (height) x 91mm (depth) and weighs 4kg.

### 3.2. Intelligent Cooling System

# INTELLIGENT FAN



Intelligent variable speed fans Adjust the fan speed at the ambient temperature and The environmental conditions

Figure 3.4: The inverter features intelligent variable speed fans that adjust their speed based on ambient temperature and environmental conditions to maintain optimal operating temperature.

## 4. SETUP AND INSTALLATION

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Proper installation is crucial for the safe and efficient operation of your hybrid solar inverter.

### 4.1. Mounting the Inverter

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- Choose a suitable location that meets the safety requirements (dry, cool, well-ventilated, indoor waterproof environment).
- Ensure there is sufficient clearance around the inverter for proper airflow and heat dissipation.
- Mount the inverter securely to a vertical surface using appropriate fasteners.

### 4.2. Wiring Connections

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Follow the wiring diagram carefully. All connections must be secure and properly insulated.

1. **Battery Connection:** Connect the battery bank to the inverter's battery terminals. Ensure correct polarity

(positive to positive, negative to negative). Use appropriate DC circuit breakers and cable sizes. The inverter is compatible with 12V lead-acid, AGM, gel, and LiFePO4 batteries.

2. **Solar Panel Connection:** Connect your solar panels to the PV input terminals. Ensure the solar panel voltage and current are within the inverter's specifications (Max. PV Input Power: 2500W, MPPT Tracking Range: 30-240VDC, Max. PV Input Voltage: 300VDC, Max. PV Input Current: 15A). Solar panels are recommended to be connected in series to increase voltage.
3. **AC Input Connection:** Connect the utility grid or generator AC power to the AC input terminal.
4. **AC Output Connection:** Connect your loads (appliances) to the AC output terminal.
5. **Grounding:** Connect the inverter's ground terminal to a reliable earth ground.

## DETAILED SPECIFICATIONS

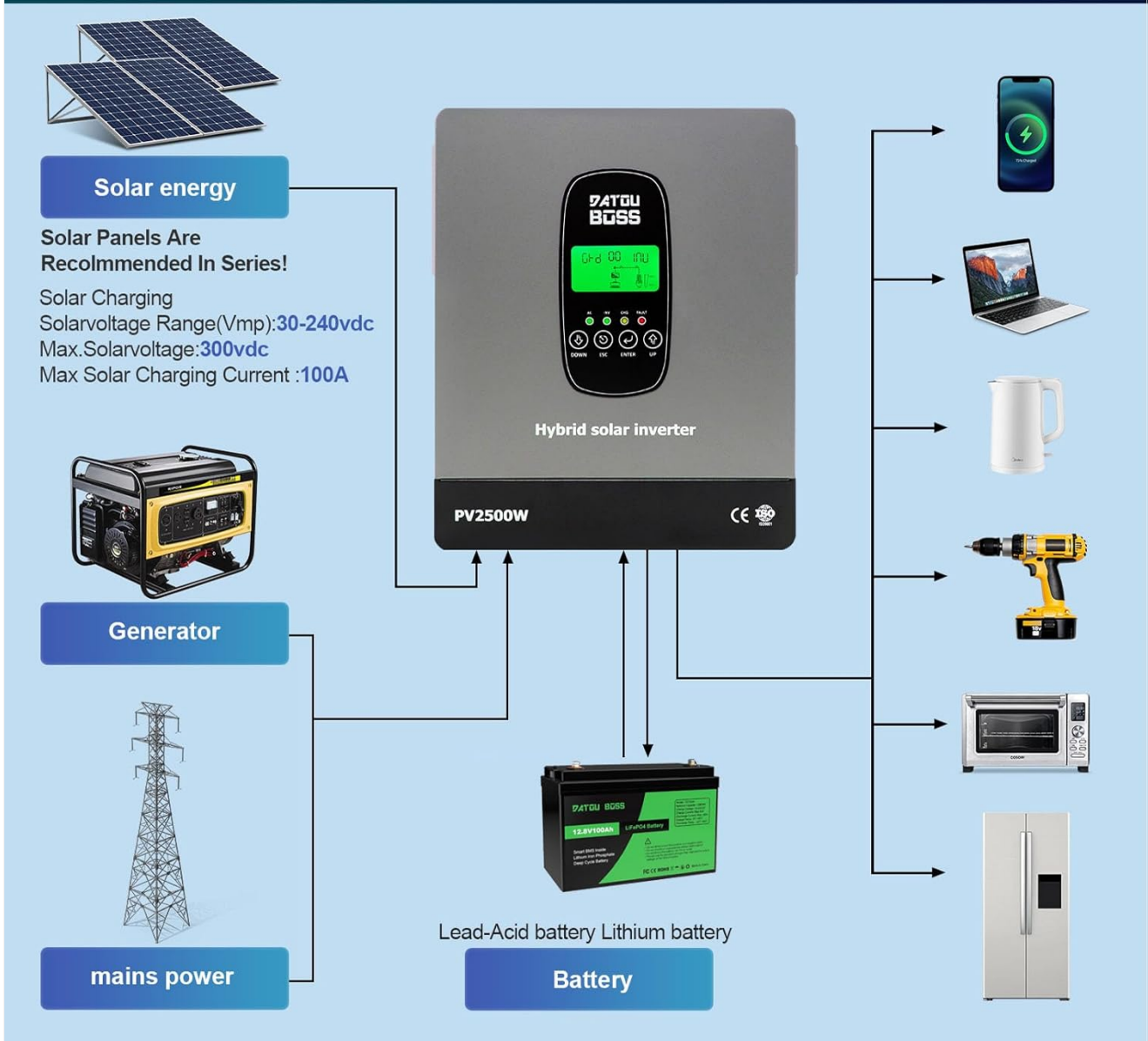


Figure 4.1: General connection diagram showing solar panels, battery, mains power, and household appliances connected to the hybrid solar inverter.

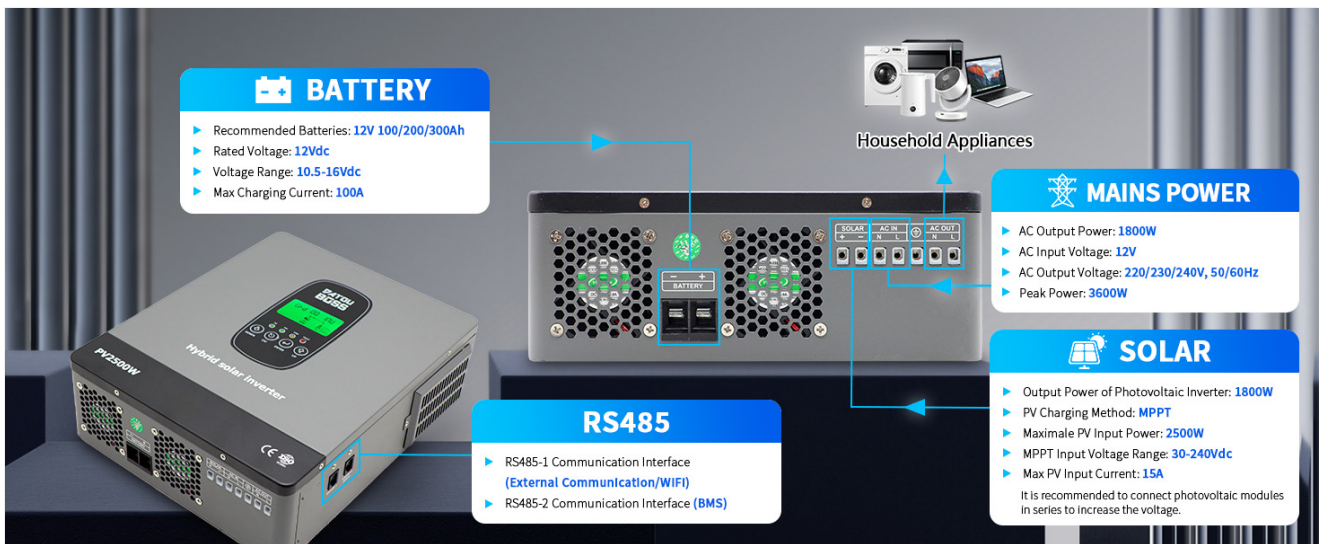


Figure 4.2: Detailed wiring connections for the inverter, illustrating the battery, mains power, solar input, and RS485 communication interfaces. This diagram shows recommended battery types (12V 100/200/300Ah) and their voltage range (10.5-16Vdc), maximum charging current (100A), AC output power (1800W), AC input voltage (12V), and solar input parameters (Max PV Input Power 2500W, MPPT Input Voltage Range 30-240Vdc, Max PV Input Current 15A).

## 5. OPERATING INSTRUCTIONS

Once installed, you can begin operating your DATOUBOSS hybrid solar inverter.

### 5.1. Powering On/Off

- **To Power On:** Ensure all connections are secure. Turn on the battery breaker first, then the solar breaker (if applicable), and finally the AC input breaker (if applicable). Press the Power ON/OFF switch on the inverter. The LCD display will light up.
- **To Power Off:** Disconnect all AC loads. Turn off the AC input breaker, then the solar breaker, and finally the battery breaker. Press the Power ON/OFF switch on the inverter.

### 5.2. LCD Display and Function Buttons

The intuitive LCD display provides real-time system status. Use the function buttons (DOWN, ESC, ENTER, UP) to navigate menus and configure settings.

- **LCD Display:** Shows parameters such as input/output voltage, battery voltage, charging current, load percentage, and operational status (AC, INV, CHG, FAULT indicators).
- **Function Buttons:**
  - **UP/DOWN:** Navigate through menu options or adjust values.
  - **ENTER:** Confirm selection or enter a submenu.
  - **ESC:** Exit current menu or cancel an operation.

### 5.3. MPPT Technology

The inverter features advanced MPPT (Maximum Power Point Tracking) technology to maximize power harvest from your solar panels.

# ADVANCED MPPT TECHNOLOGY PURE SINE WAVE INVERTER

Accept Solar Power/Mains Power/Generator Power Charge battery

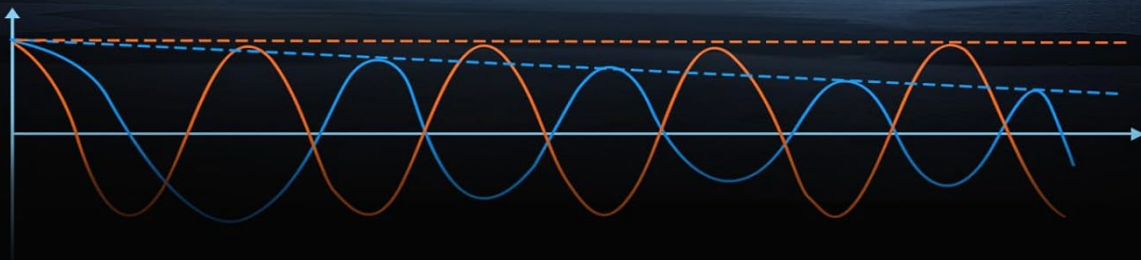


Figure 5.1: Illustration of the advanced MPPT technology, which ensures the inverter accepts solar power, mains power, or generator power to charge the battery efficiently, providing a pure sine wave output.

## 5.4. Charging and Discharge Modes

The inverter supports various charging and discharge modes to optimize energy use.

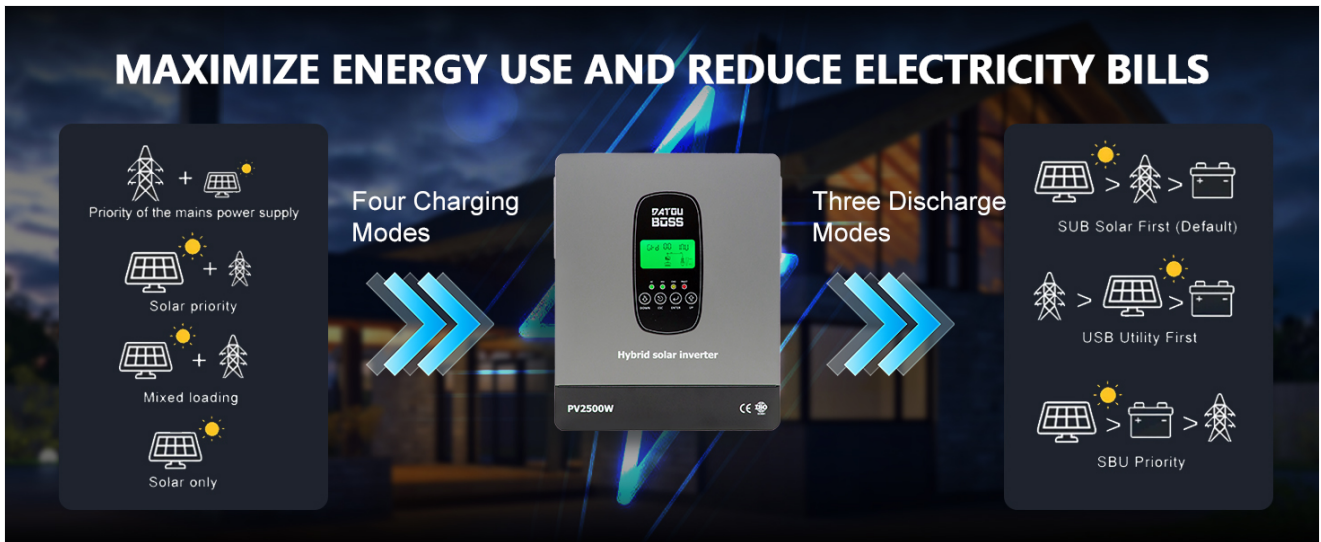


Figure 5.2: Illustration of the four charging modes and three discharge modes. Charging modes include: Priority of the mains power supply, Solar priority, Mixed loading, and Solar only. Discharge modes include: SUB Solar First (Default), USB Utility First, and SBU Priority. These modes allow users to maximize energy use and reduce electricity bills by prioritizing different power sources.

- **Charging Modes:** Configure how the battery is charged (e.g., solar priority, utility priority, or a mix).
- **Discharge Modes:** Set the priority for power supply to loads (e.g., solar first, utility first, or battery backup).

Refer to the inverter's LCD menu for detailed configuration of these modes.

## 6. APPLICATIONS

The DATOUBOSS Hybrid Solar Inverter is designed for a wide range of applications, providing reliable power in various scenarios.



Figure 6.1: An example of the hybrid solar inverter integrated into a home power system, showing connections to solar panels, household appliances, and battery storage. Note: The inverter is not waterproof and is recommended for use in indoor waterproof environments.

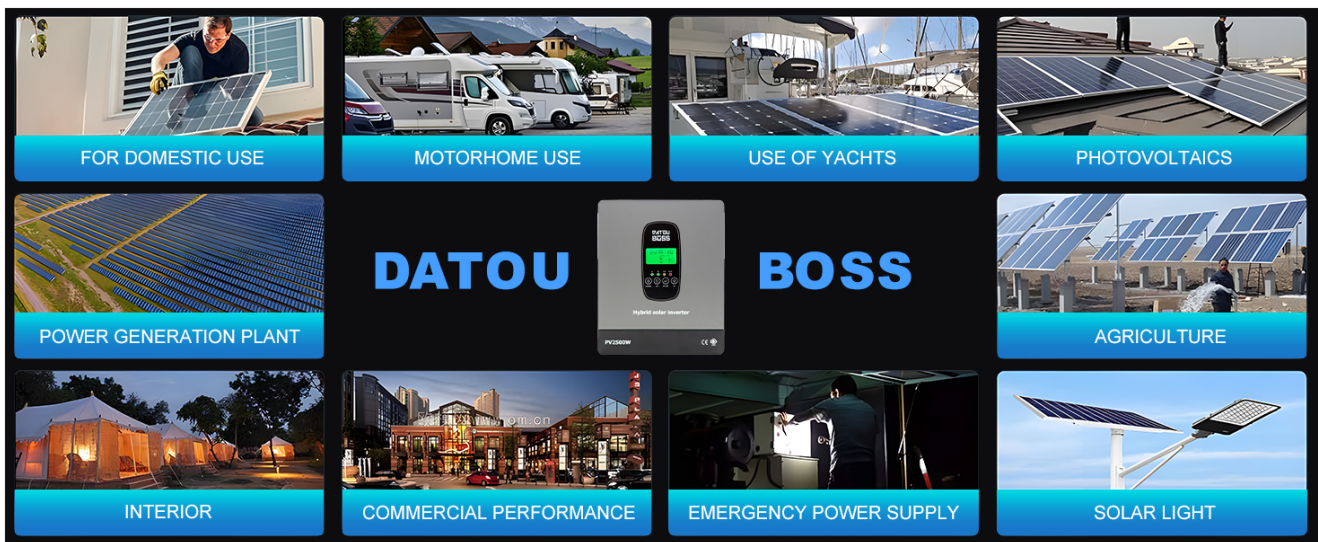


Figure 6.2: This image illustrates the diverse applications for the DATOUBOSS hybrid solar inverter, including domestic use, motorhome use, yachts, photovoltaics, power generation plants, agriculture, interior installations, commercial performance, emergency power supply, and solar lighting.

## 7. MAINTENANCE

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

- **Cleaning:** Periodically clean the exterior of the inverter with a dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connections:** Annually check all electrical connections for tightness and signs of corrosion.
- **Battery Inspection:** Regularly inspect battery terminals for corrosion and ensure battery health.
- **Environment:** Ensure the installation environment remains within recommended conditions (temperature, humidity).

## 8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. For more complex problems, contact customer support.

### 8.1. Common Issues and Solutions

- **No Power Output:**
  - Check if the inverter is powered on.
  - Verify battery connections and voltage.
  - Check AC input and output breakers.
  - Ensure no overload condition is present.
- **Inverter Fault Indicator On:**
  - Refer to the LCD display for specific error codes.
  - Common faults include overvoltage, undervoltage, overload, short circuit, and overtemperature.
  - Disconnect loads, check connections, and restart the inverter.
- **Battery Not Charging:**
  - Check solar panel connections and ensure they are receiving sunlight.

- Verify AC input connection if charging from utility.
- Check battery health and connections.
- Ensure MPPT controller is functioning (check display).

## 8.2. Comprehensive Protection System

The inverter is equipped with a robust protection system to ensure safe operation:



Figure 8.1: Overview of the inverter's protection features, including Overvoltage Protection, Low Voltage Protection, Short Circuit Protection, Overload Protection, Overheating Protection, and Reverse Polarity Protection.

# COMPREHENSIVE 360° PROTECTION

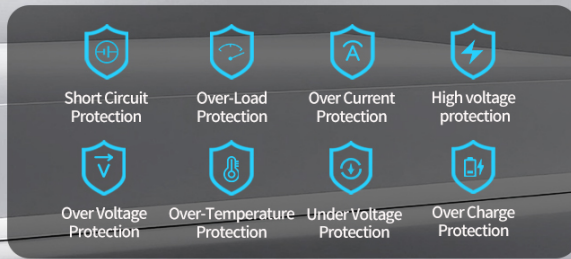


Figure 8.2: Visual representation of the comprehensive protection features, including Short Circuit Protection, Over-Load Protection, Over Current Protection, High Voltage Protection, Over Voltage Protection, Over-Temperature Protection, Under Voltage Protection, and Over Charge Protection.

## 9. SPECIFICATIONS

Detailed technical specifications for the DATOUBOSS 1800W 12V Hybrid Solar Inverter (Model: DT-1218-A-EU).

### PRODUCT PARAMETERS

<b>Model</b>	DT-1218	<b>Low Voltage Protection</b>	10.5V
<b>Output Power</b>	1800W	<b>Anti-island Protection</b>	≤2S
<b>Input Voltage</b>	12V	<b>Noise</b>	≤55dB
<b>Display</b>	LCD Liquid Crystal Display	<b>Overheating Protection</b>	90°C
<b>Product Weight</b>	4kg	<b>Conversion Efficiency</b>	≥94%

Figure 9.1: A table summarizing key product parameters including model, output power, input voltage, display type, product weight, low voltage protection, anti-island protection, noise level, overheating protection, and conversion efficiency.

### Technical Specifications - Model DT-1218-A-EU

Parameter	Value
Brand	DATOUBOSS
Model	DT-1218-A-EU
Rated Power	1800W
Input Voltage (DC)	12 Volt
AC Output Voltage	230V AC
Power Source Type	Solar Powered and Battery Powered

Parameter	Value
Recommended Uses	Home, Vehicles (RV, Camper, Boat)
Max. PV Input Power	2500W
MPPT Tracking Range	30-240VDC
Max. PV Input Voltage	300VDC
Max. PV Input Current	15A
Max. Charging Current	100A
Display Type	LCD Liquid Crystal Display
Product Weight	4kg

## 10. WARRANTY AND SUPPORT

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For warranty information, please refer to the warranty card included with your product or contact the seller directly. DATOUBOSS is committed to providing high-quality products and customer satisfaction.

If you encounter any issues or have questions regarding the installation, operation, or maintenance of your inverter, please contact DATOUBOSS customer support through the retailer where you purchased the product or visit the official DATOUBOSS store page on Amazon for contact options.

[Visit the DATOUBOSS Store on Amazon](#)