THKFMSRC 24V-3600W

THKFMSRC 3.6KW High-Power Inverter with Built-in MPPT Hybrid Control (Model 24V-3600W) User Manual

Model: 24V-3600W

1. Introduction

This manual provides essential information for the safe and efficient operation of your THKFMSRC 3.6KW High-Power Inverter with Built-in MPPT Hybrid Control. Please read this manual thoroughly before installation and use, and retain it for future reference. This inverter is designed to convert DC power from solar panels or batteries into AC power for various applications.

2. Safety Instructions

Adherence to these safety instructions is crucial to prevent injury and damage to the equipment.

- **Electrical Safety:** Installation and maintenance must be performed by qualified personnel. Ensure all power sources are disconnected before working on the inverter.
- **Ventilation:** Install the inverter in a well-ventilated area to prevent overheating. Maintain adequate clearance around the unit.
- **Environment:** Avoid exposure to water, high humidity, direct sunlight, and corrosive substances. Do not operate in environments with flammable gases.
- **Grounding:** The inverter must be properly grounded to prevent electrical shock.
- **Battery Safety:** When connecting to batteries, ensure correct polarity. Wear protective gear when handling batteries.

3. Product Overview

The THKFMSRC 3.6KW High-Power Inverter is a versatile unit featuring a built-in MPPT (Maximum Power Point Tracking) charge controller for efficient solar power utilization and hybrid control capabilities. It is designed for 24V systems and delivers up to 3600W of power.

Figure 3.1: Front view of the THKFMSRC 3.6KW High-Power Inverter. This image displays the inverter's white casing, with a central black display panel showing voltage readings (e.g., -230 P1 230) and status indicators. Below the display are four control buttons with arrow icons.

Key Features:

- 3.6KW continuous power output.
- Built-in MPPT solar charge controller for optimized solar energy harvesting.
- Hybrid control for seamless power management from multiple sources (solar, battery, utility).
- 24V DC input voltage.
- LCD display for system status monitoring.

4. Setup and Installation

Proper installation is critical for the inverter's performance and safety. Consult a qualified electrician if you are unsure about any steps.

1. **Mounting:** Select a suitable location that is dry, well-ventilated, and away from direct sunlight or heat sources. Ensure the mounting surface can support the inverter's weight. Securely mount the inverter using appropriate fasteners.
2. **Wiring DC Input:** Connect the battery bank (24V) to the DC input terminals, ensuring correct polarity (+ to + and - to -). Use appropriately sized cables to minimize voltage drop.
3. **Wiring Solar Input:** Connect the solar panel array to the MPPT solar input terminals. Verify that the open-circuit voltage (Voc) and short-circuit current (Isc) of your solar array are within the inverter's specifications.
4. **Wiring AC Output:** Connect your AC loads to the AC output terminals. Ensure the total load does not exceed the inverter's rated output power.
5. **Grounding:** Connect the inverter's ground terminal to a reliable earth ground.
6. **AC Input (Optional):** If using a utility grid or generator as an AC input source, connect it to the designated AC input terminals.

Figure 4.1: Example of connection terminals on the THKFMSRC 3.6KW High-Power Inverter. This image illustrates a section of the inverter, likely the bottom or side, where various wiring connections for DC input, AC output, and solar panels would be located. Specific labels are not clearly visible but represent connection points.

5. Operating Instructions

Once installed, follow these steps to operate your inverter:

1. **Initial Power-Up:** After all connections are secure, switch on the DC breaker from the battery bank first, then the solar array breaker (if applicable). Finally, switch on the inverter's main power switch.
2. **Display Monitoring:** The LCD display will show system status, including input voltage, output voltage,

battery charge level, and power flow. Use the control buttons below the display to navigate through different screens and settings.

3. **Settings Configuration:** Refer to the detailed settings menu in the full product manual for advanced configurations such as battery type, charge current, and output voltage preferences.
4. **Shutdown Procedure:** To shut down the system, first disconnect all AC loads. Then, switch off the inverter's main power switch, followed by the solar array breaker, and finally the DC breaker from the battery bank.

6. Maintenance

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

- **Cleaning:** Periodically clean the inverter's exterior with a dry, soft cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners.
- **Connections Check:** Annually inspect all electrical connections for tightness and signs of corrosion. Tighten any loose connections.
- **Battery Inspection:** If using lead-acid batteries, check electrolyte levels and terminal condition regularly.
- **Environmental Check:** Ensure the installation environment remains within specified temperature and humidity ranges.

7. Troubleshooting

This section addresses common issues you might encounter. For complex problems, contact technical support.

Problem	Possible Cause	Solution
Inverter not turning on	No DC input power; loose connections; faulty battery.	Check battery connections and voltage; ensure DC breaker is on.
No AC output	Overload; short circuit; inverter fault; AC output breaker tripped.	Reduce load; check for short circuits; reset AC breaker; restart inverter.
Low battery voltage alarm	Insufficient charging; excessive load; battery degradation.	Check solar panel output; reduce load; consider battery replacement.
Overheating alarm	Poor ventilation; excessive ambient temperature; blocked fan.	Ensure adequate airflow; clean vents; reduce load if necessary.

8. Specifications

Technical specifications for the THKFMSRC 3.6KW High-Power Inverter (Model 24V-3600W).

- **Brand:** THKFMSRC
- **Model:** 24V-3600W
- **Power Source:** Battery Powered
- **Wattage:** 1 kWh (This typically refers to energy capacity or a specific operational mode; the continuous output power is 3.6KW)

- **Continuous Output Power:** 3.6KW
- **Input Voltage:** 24V DC
- **Inverter Type:** High-Power Inverter with Built-in MPPT Hybrid Control
- **Manufacturer:** THKFMSRC
- **ASIN:** B0GHDG41WT

9. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the documentation provided with your purchase or contact the manufacturer directly. Keep your proof of purchase for warranty claims.
Manufacturer: THKFMSRC
For further assistance, visit the official THKFMSRC website or contact their customer service department.