

Temank US-POW-LVM3.2K-24V-YF

Temank 3200W Solar Inverter User Manual

Model: US-POW-LVM3.2K-24V-YF

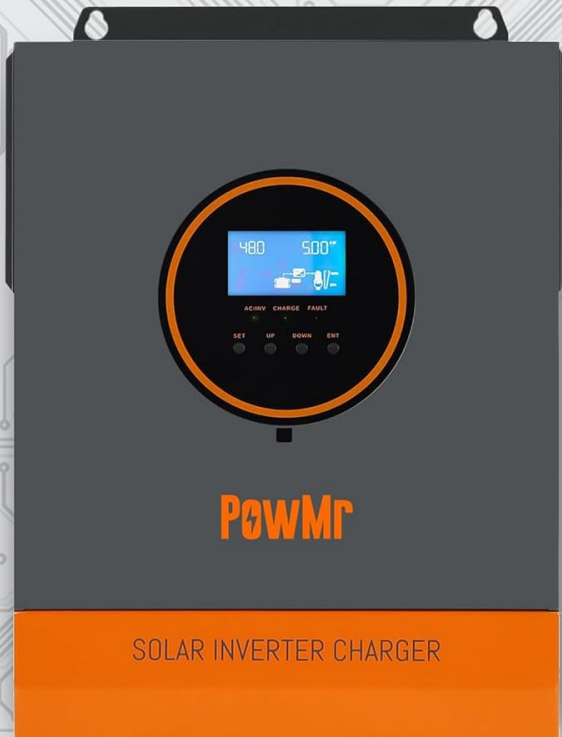
1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Temank 3200W Solar Inverter. This off-grid power inverter converts 24V DC to 120V AC and features a built-in 80A MPPT charge controller. It is designed for compatibility with both lead-acid and lithium batteries, supporting a maximum PV input of 108V. Please read this manual thoroughly before installation and use.

2. PRODUCT OVERVIEW

The Temank 3200W Solar Inverter is a versatile unit combining an inverter, solar charger, and battery charger to offer uninterrupted power support. Its comprehensive LCD display provides user-configurable and easily accessible button operations such as battery charging current, AC/solar charger priority, and acceptable input voltage based on different applications.

3.2KW 24Vdc TO 110Vac SOLAR INVERTER



60A MPPT

Solar Charge Controller

1600W

Max Input Power

30-108VDC

PV operation voltage range

≥30V

First start voltage



LiFePO4 Battery



Sealed Battery



GEL Battery



Flooded Battery



AGM Battery

Figure 2.2: Diagram illustrating key features: 60A MPPT Solar Charge Controller, 1600W Max Input Power, 30-108VDC PV operation voltage range, and compatibility with various battery types (LiFePO4, Sealed, GEL, Flooded, AGM).

MULTI-PROTECTION FUNCTIONS



Figure 2.3: Diagram showcasing 360-degree multi-protection functions including overload, charge short, AC reverse, short-circuit, bypass over current, battery over voltage, battery low voltage, and parallel connection error protection.

3. SETUP

3.1 Unpacking and Inspection

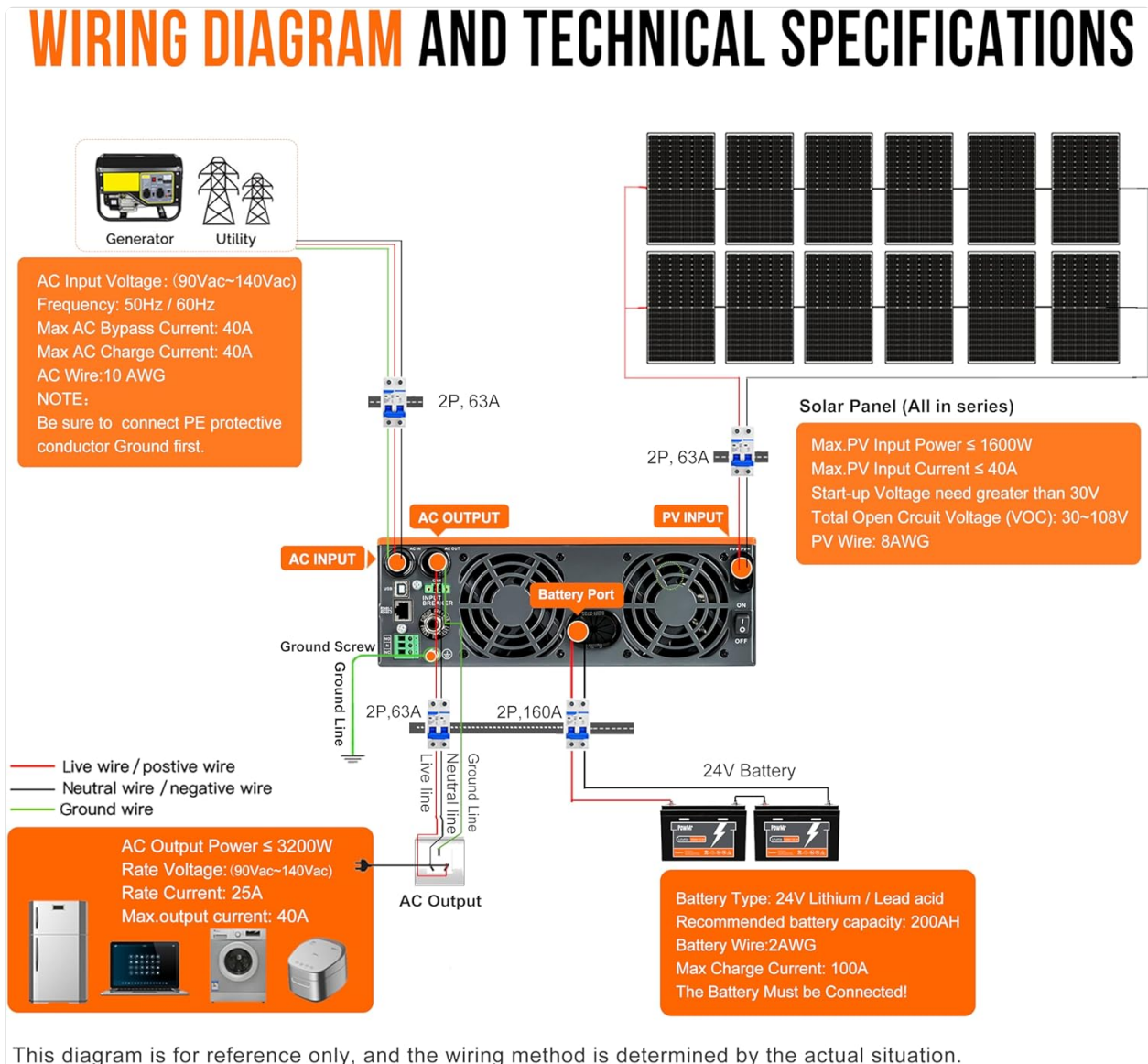
Upon receiving the inverter, carefully unpack it and inspect for any shipping damage. Ensure all components listed in the packing list are present. If any damage or missing parts are found, contact your dealer immediately.

3.2 Mounting the Inverter

Choose a suitable location for mounting the inverter. It should be a dry, well-ventilated area, away from direct sunlight, heat sources, and flammable materials. Ensure adequate clearance around the unit for proper airflow.

3.3 Wiring Connections

All wiring should be performed by a qualified electrician in accordance with local electrical codes. Ensure all connections are secure and properly insulated to prevent short circuits and electrical hazards.



This diagram is for reference only, and the wiring method is determined by the actual situation.

Figure 3.1: Detailed wiring diagram for AC input, AC output, and PV input, showing connections to generator, utility, solar panels, and 24V battery. This diagram is for reference only; actual wiring may vary based on installation.

- Battery Connection:** Connect the 24V battery bank to the inverter's battery terminals. Ensure correct polarity. Recommended battery capacity is 200AH.
- PV Input Connection:** Connect your solar panel array to the PV input terminals. Ensure the total open circuit voltage (VOC) is within the 30-108V range and the maximum PV input power does not exceed 1600W.
- AC Input Connection:** Connect the AC utility grid or generator to the AC input terminals. The acceptable AC input voltage range is 90-140Vac.
- AC Output Connection:** Connect your AC loads (e.g., home appliances) to the AC output terminals. The inverter provides 120V AC output.
- Grounding:** Ensure the inverter is properly grounded to prevent electrical shock.

4. OPERATING INSTRUCTIONS

4.1 Initial Power-Up

After all connections are securely made, turn on the battery breaker first, then the AC input breaker (if applicable), and finally the inverter's power switch. The LCD display will illuminate, showing system status.

4.2 Display and Control Panel

The inverter features an LCD display and control buttons (SET, UP, DOWN, ENT) for monitoring and configuring operational parameters.



Figure 4.1: Visual representation of four safe charging input modes (solar, utility, solar priority, solar+utility) and three output modes (PV priority, utility priority, inverter priority), along with the LED display for real-time information.

4.3 Operating Modes

The inverter supports various operating modes, which can be configured via the control panel:

- **PV Priority:** Solar power is the primary source for loads and battery charging. Utility/AC input acts as a backup.
- **Utility Priority:** Utility/AC input is the primary source. Solar power is used when utility is unavailable or for

charging.

- **Inverter Priority:** Battery power is the primary source for loads. Utility/AC input is used for charging and as a backup when battery voltage is low.

4.4 Charging Modes

The built-in MPPT charge controller manages battery charging from solar panels and/or AC utility. Available charging modes include:

- **Solar Charging:** Charges batteries solely from solar panels.
- **Utility Charge (Solar as backup power):** Primarily charges from utility, with solar as backup.
- **Solar Priority (Utility as backup power):** Primarily charges from solar, with utility as backup.
- **Solar+Utility Charging:** Charges from both solar and utility simultaneously for faster charging.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Temank Solar Inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry cloth. Ensure ventilation openings are free from dust and debris.
- **Fan Operation:** The inverter features smart variable speed fans that adjust based on ambient temperature. Ensure these fans are not obstructed.

SMART VARIABLE SPEED FAN

The smart variable speed fan will adjust the fan rotation speed according to the ambient temperature as well as the environmental conditions.



Figure 5.1: Rear view of the inverter with smart variable speed fans, emphasizing their function in adjusting rotation speed based on ambient temperature and environmental conditions.

- **Connection Check:** Annually inspect all wiring connections for tightness and signs of corrosion.
- **Battery Health:** Monitor battery voltage and health regularly, especially for lead-acid batteries.

6. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your inverter. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Inverter not turning on	No battery connection; Battery voltage too low; Power switch off; Blown fuse/breaker.	Check battery connections; Charge battery; Turn on power switch; Check and replace fuse/reset breaker.
No AC output	Overload; Over-temperature; Battery low/high voltage; AC output breaker tripped.	Reduce load; Allow inverter to cool down; Check battery voltage; Reset AC output breaker.
Battery not charging	PV input too low/high; Solar panels not connected; AC input not present (if AC charging); MPPT controller fault.	Check PV voltage and connections; Ensure AC input is available; Contact support if MPPT fault persists.
Unusual noise from inverter	Loose components; Overload; Fan malfunction.	Check for loose parts; Reduce load; Ensure fan is not obstructed and operating correctly.

7. SPECIFICATIONS

Parameter	Value
Brand	Temank
Model	US-POW-LVM3.2K-24V-YF
Model Name	3200W
Wattage	3200 watts
Power Source Type	Solar Powered
Battery Capacity	200 Amp Hours (Recommended)
Max. PV Input Voltage	108 Volts
Max. PV Input Power	1600W
MPPT Charge Controller	80A
AC Output Voltage	120V AC
Frequency	60 Hz

Parameter	Value
Item Weight	6.79 kg
Product Dimensions (L x W x H)	37.8 x 28 x 10.3 cm
Display Type	LCD+LED
Included Components	Instruction Manual, Solar Inverter
Recommended Uses	Boat, Home, Office, Vehicle

8. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided with your purchase or contact Temank customer service directly. Details regarding warranty periods and support channels are typically included with the product packaging or available on the manufacturer's official website.