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## Temank 3600W 24V

# Temank 3600W 24V Solar Inverter with 120A MPPT Controller

User Manual

## 1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Temank 3600W 24V Solar Inverter. This device is a pure sine wave solar inverter charger featuring a built-in 120A MPPT controller and an 80A AC charger. It is designed to support various power sources including utility, generator, and solar for charging, and is compatible with 24V lead-acid and lithium batteries. Please read this manual thoroughly before installation and operation to ensure proper use and safety.



Image 1.1: Front view of the Temank 3600W 24V Solar Inverter, showcasing its display and branding.

## 2. IMPORTANT SAFETY INSTRUCTIONS

Please observe all warnings and instructions in this manual. Improper installation or operation can lead to electric shock, fire, or serious injury. Keep this manual for future reference.

- Installation must be performed by qualified personnel.
- Ensure all wiring is correctly sized and connections are secure.
- Do not disassemble the inverter. There are no user-serviceable parts inside.
- Avoid exposing the inverter to rain, snow, spray, or any liquids.

- Ensure adequate ventilation around the inverter to prevent overheating.
- Always disconnect all power sources (PV, battery, AC input) before performing any maintenance or wiring.

### 3. PRODUCT FEATURES

The Temank 3600W 24V Solar Inverter offers advanced features for efficient power management:

- **Pure Sine Wave Output:** Provides clean and stable power suitable for sensitive electronics.
- **Integrated MPPT Controller:** Built-in 120A Maximum Power Point Tracking (MPPT) solar charge controller optimizes solar power harvesting.
- **AC Charger:** Features an 80A AC charger for flexible battery charging from utility or generator sources.
- **Multiple Charging Modes:** Offers three selectable battery charging modes: Solar First, Solar and Utility, and Only Solar.
- **Load Output Modes:** Provides three load output working modes: Utility First, Solar First, and SBU Priority.
- **LCD Display:** A clear LED display screen provides dynamic system data and operating status, allowing for configurable settings such as input voltage range, battery charging current, and AC/solar charging priority.
- **Battery Compatibility:** Compatible with 24V lead-acid (Seal, AGM, Gel, Flooded) and lithium batteries. It can activate lithium batteries via PV solar or mains.
- **Intelligent Variable Speed Fan:** Efficiently dissipates heat to extend system life and maintain optimal performance.

# OFF-GRID 3600W SOLAR INVERTER

- 24V DC to 110V AC
- Pure Sine Wave Inverter built in 120A MPPT Controller
- Max.PV Array Power 4200W,500V,18A
- Compatible with 24V Lead-acid, Lithium Batteries,etc
- Supports Solar, Utility, or Generator Power to Charge the Battery

**3600W**

Max.Output Power

**4200W**

Max.PV Input  
Power

**500V**

Max.PV VOC

**120A**

Max.Charging  
Current



Image 3.1: Overview of the inverter's key specifications and off-grid capabilities.



Image 3.2: Illustrates the 120A maximum charge current and compatibility with various 24V battery types including GEL, FLD, Li-ion, and user-defined settings.

# CONFIGURABLE SETTINGS VIA LCD DISPLAY



Configurable AC/Solar  
charger priority via  
LCD setting

Configurable battery  
charging current  
based on applications  
via LCD setting

Configurable input  
voltage range for  
home appliances and  
personal computers  
via LCD setting

Image 3.3: Shows the inverter's LCD display and highlights configurable settings for AC/Solar charger priority, battery charging current, and input voltage range.

## 4. INSTALLATION

Proper installation is crucial for the safe and efficient operation of your solar inverter. It is recommended that installation be performed by a certified electrician or qualified professional.

### 4.1 Mounting the Inverter

- Choose a dry, cool, and well-ventilated area, away from flammable materials.
- Mount the inverter vertically on a sturdy wall or surface.
- Ensure sufficient clearance around the inverter for proper airflow and heat dissipation.

### 4.2 Wiring Connections

Follow the wiring diagram carefully. All connections must be tight and secure to prevent loose connections, which can cause overheating or damage.

- **PV Input:** Connect solar panels to the PV input terminals. Ensure the total PV open circuit voltage (VOC) does not exceed 500VDC and the starting voltage is greater than 60V. Recommended PV wire size: 12AWG.
- **Battery Connection:** Connect the 24V battery bank to the battery terminals. Recommended battery cable size: 2AWG. Ensure correct polarity.
- **AC Input:** Connect the utility grid or generator to the AC input terminals. Recommended AC wire size: 12AWG.
- **AC Output:** Connect your loads to the AC output terminals.
- **Grounding:** Connect the inverter to an earth ground using a protective conductor.

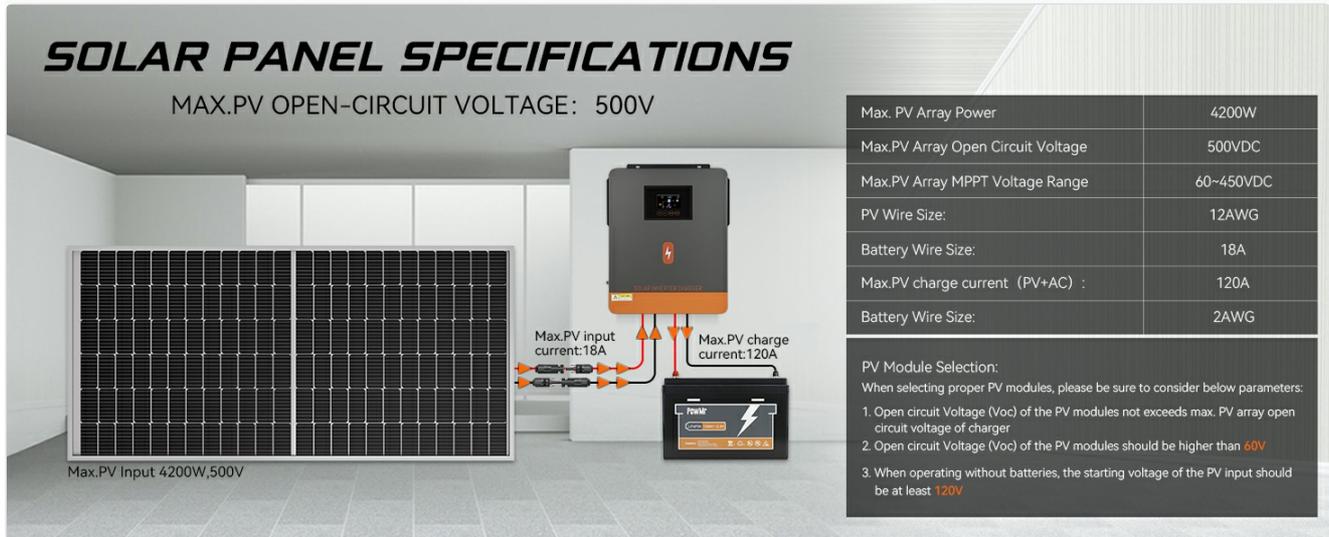


Image 4.1: Detailed wiring diagram illustrating connections for solar panels, batteries, AC input (utility/generator), and AC output loads. Includes key technical specifications for each connection point.

## 5. OPERATION

Once installed, the inverter can be configured and operated via its LCD display and control buttons.

### 5.1 Initial Startup

1. Ensure all wiring connections are correct and secure.
2. Connect the battery bank to the inverter.
3. Connect the solar panels to the PV input.
4. Connect the AC input (utility or generator) if applicable.
5. Turn on the inverter's power switch. The LCD display will illuminate, showing system status.

### 5.2 Charging and Output Modes

The inverter offers flexible modes to suit various energy requirements:

- **Battery Charging Modes:**
  - **Solar First:** Prioritizes solar energy for battery charging. Utility/generator charges only when solar is insufficient.
  - **Solar and Utility:** Solar and utility/generator charge the battery simultaneously.
  - **Only Solar:** Only solar energy charges the battery, regardless of utility availability.
- **Load Output Working Modes:**

- **Utility First:** Prioritizes utility power for loads. Inverter switches to battery/solar only when utility is unavailable.
- **Solar First:** Prioritizes solar power for loads. Switches to utility/battery when solar is insufficient.
- **SBU Priority (Solar-Battery-Utility):** Prioritizes solar, then battery, then utility for powering loads.

## Charging and Output Modes

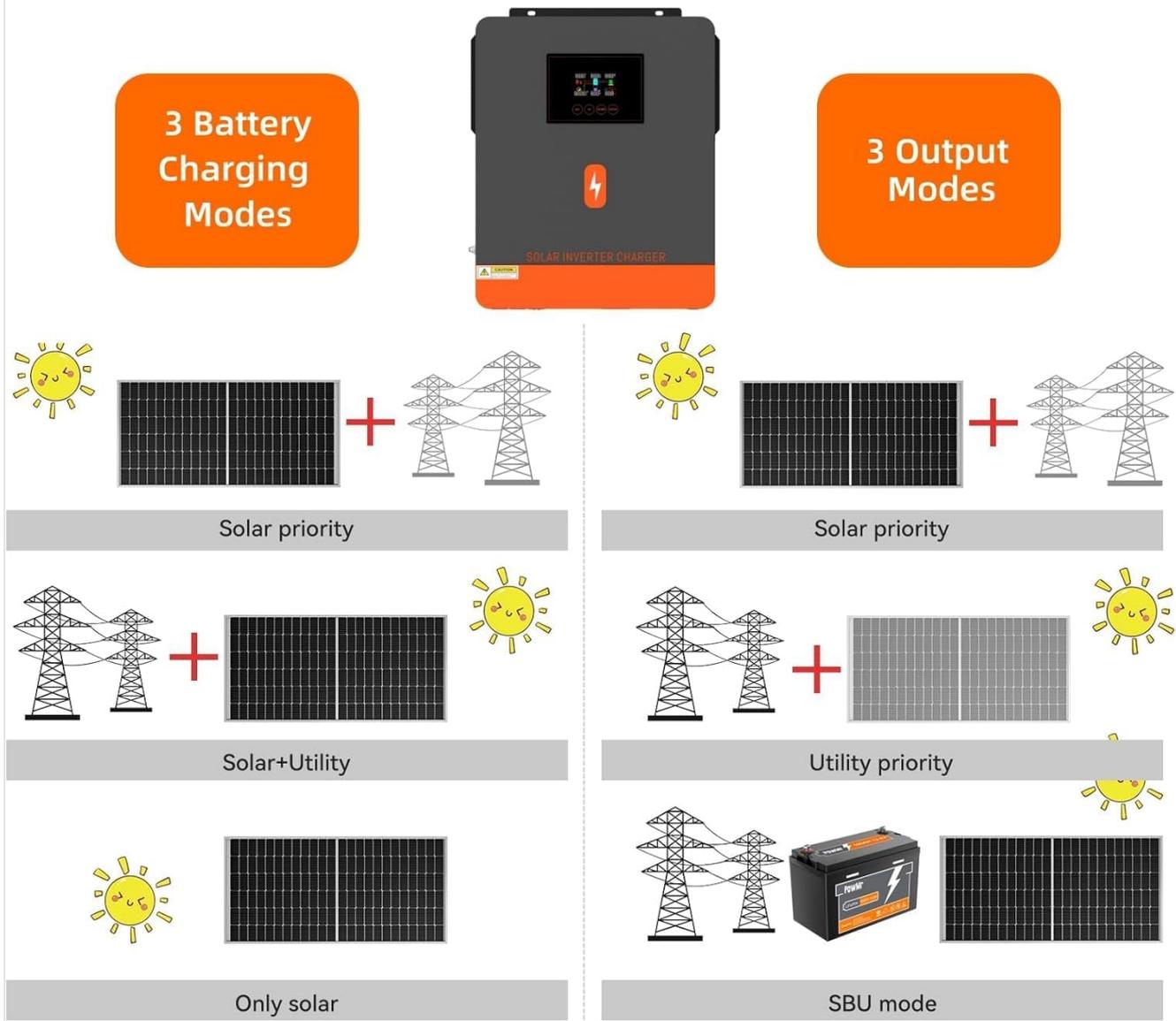


Image 5.1: Visual representation of the three battery charging modes (Solar priority, Solar+Utility, Only solar) and three load output modes (Solar priority, Utility priority, SBU mode).

### 5.3 LCD Display and Settings

The LCD display provides real-time data and allows for customization of operational parameters. Use the ESC, UP, DOWN, and ENTER buttons to navigate the menu and adjust settings. Refer to the detailed programming section in the full product manual for specific menu options and their functions.

## 6. SPECIFICATIONS

Feature	Specification

Feature	Specification
Model	3600W 24V
Rated Power	3600W
Battery Voltage	24VDC
Max. PV Input Power	4200W
Max. PV Open Circuit Voltage (VOC)	500VDC
MPPT Voltage Range	60-450VDC
Max. PV Input Current	18A
Max. Solar Charge Current	120A
Max. AC Charge Current	80A
Hybrid Charging Max Current (AC+PV)	120A
AC Output Voltage	120VAC
AC Output Frequency	50Hz/60Hz (Auto sensing)
Waveform	Pure Sine Wave
Surge Power	7200W
Dimensions (L x W x H)	19.5 x 16.6 x 7.25 inches (approx.)
Weight	21.5 pounds (approx.)

## 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.
- **Connections Check:** Annually inspect all wiring connections for tightness and corrosion. Re-tighten if necessary.
- **Battery Inspection:** Regularly check battery terminals for corrosion and ensure proper ventilation for lead-acid batteries. Follow battery manufacturer's maintenance guidelines.
- **Environmental Check:** Ensure the installation environment remains within specified temperature and humidity ranges.

## 8. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, please contact customer support.

Problem	Possible Cause	Solution
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<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
Inverter not turning on	No battery connection or low battery voltage. Power switch off.	Check battery connections and voltage. Ensure power switch is ON.
No AC output	Overload. Short circuit. Inverter fault.	Reduce load. Check for short circuits in wiring. Restart inverter.
PV not charging battery	Insufficient solar input. PV connection issue. MPPT controller fault.	Check solar panel connections and sunlight conditions. Verify PV voltage.
AC charging not working	No AC input. AC input breaker tripped.	Check AC input connection and ensure utility/generator is supplying power. Reset AC breaker.
Unusual noise or smell	Internal fault. Overheating.	Immediately disconnect all power sources. Do not attempt to operate. Contact support.

## 9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Temank customer service. Keep your purchase receipt and product serial number handy when contacting support.

For further assistance, please visit the official Temank website or refer to the contact information provided with your product packaging.

## 10. APPLICATION SCENARIOS

The Temank 3600W 24V Solar Inverter is versatile and suitable for various applications, providing reliable off-grid power solutions.



**Residential use**



**commercial photovoltaic applications**



**agricultural applications**



**emergency backup**

*Image 10.1: Examples of inverter applications including residential use, commercial photovoltaic applications, agricultural applications, and emergency backup for RVs.*