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ERAYAK GT800

Erayak GT-800 MPPT On-Grid 800W Micro Inverter User Manual

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Erayak GT-800 MPPT On-Grid 800W Micro Inverter. Please read this manual thoroughly before installation and operation to ensure proper function and safety.

Figure 1: Erayak GT-800 Micro Inverter with its monitoring application interface.

2. Important Safety Instructions

Observe the following safety precautions during all stages of installation, operation, and maintenance of the Erayak GT-800 Micro Inverter:

- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Ensure the inverter is disconnected from all power sources (solar panels and AC grid) before performing any service or maintenance.
- The device is equipped with an integrated ENS protection circuit and 6000V overvoltage protection.
- The Erayak GT-800 meets German standards VDE-AR-N 4105:2018-11 and EN50549-1.
- Do not attempt to open or repair the inverter. Refer all servicing to qualified service personnel.
- Ensure proper grounding of the inverter.
- The inverter is IP66 rated for water and dust resistance, suitable for outdoor installation. However, avoid submerging the device.

Figure 2: The Erayak GT-800 Micro Inverter features an IP66 waterproof rating, indicating protection against dust and powerful water jets.

3. Package Contents

Verify that all items are present and undamaged upon unpacking:

- 1 x Erayak GT-800 Micro Inverter
- 1 x 2-meter AC Connection Cable
- 2 x Sets of Screws for mounting
- 1 x User Manual (English version provided here)

4. Technical Specifications

Feature	Specification
Model Name	GT800
Recommended Module Power	250W to 550W per panel (max 800W total)
Input Voltage Range	20V - 50V
MPPT Peak Voltage Range	22V - 48V
Startup Voltage	22V
Maximum Input Voltage	50V
Maximum Input Short-Circuit Current	2 x 16A
Rated Output Power	800W
Rated Output Current (at 230V)	3.5A
Rated Output Voltage / Range	230V (180V - 275V)
CEC Weighted Efficiency	96.50%
Dimensions (LxWxH)	230 x 200 x 40 mm
Protection Rating	IP66
Standby Power Consumption	< 50 mW

5. Setup and Installation

The Erayak GT-800 Micro Inverter is designed for easy installation. Follow these steps for a successful setup:

1. **Mounting:** Securely mount the micro inverter in a suitable location, preferably in a shaded area to optimize performance. Use the provided screw sets.
2. **Solar Panel Connection:** Connect up to two solar panels (250W to 550W each) to the inverter's MC4

compatible module connectors. Ensure correct polarity. The input voltage range is 20V-50V.

3. **AC Grid Connection:** Connect the inverter to your AC grid using the provided 2-meter AC connection cable. The inverter supports AC Daisy Chain cabling for multiple units.
4. **Parallel Installation (Optional):** For larger systems, multiple GT-800 inverters can be connected in parallel. Each inverter operates independently, ensuring continuous power generation even if one unit experiences an issue.

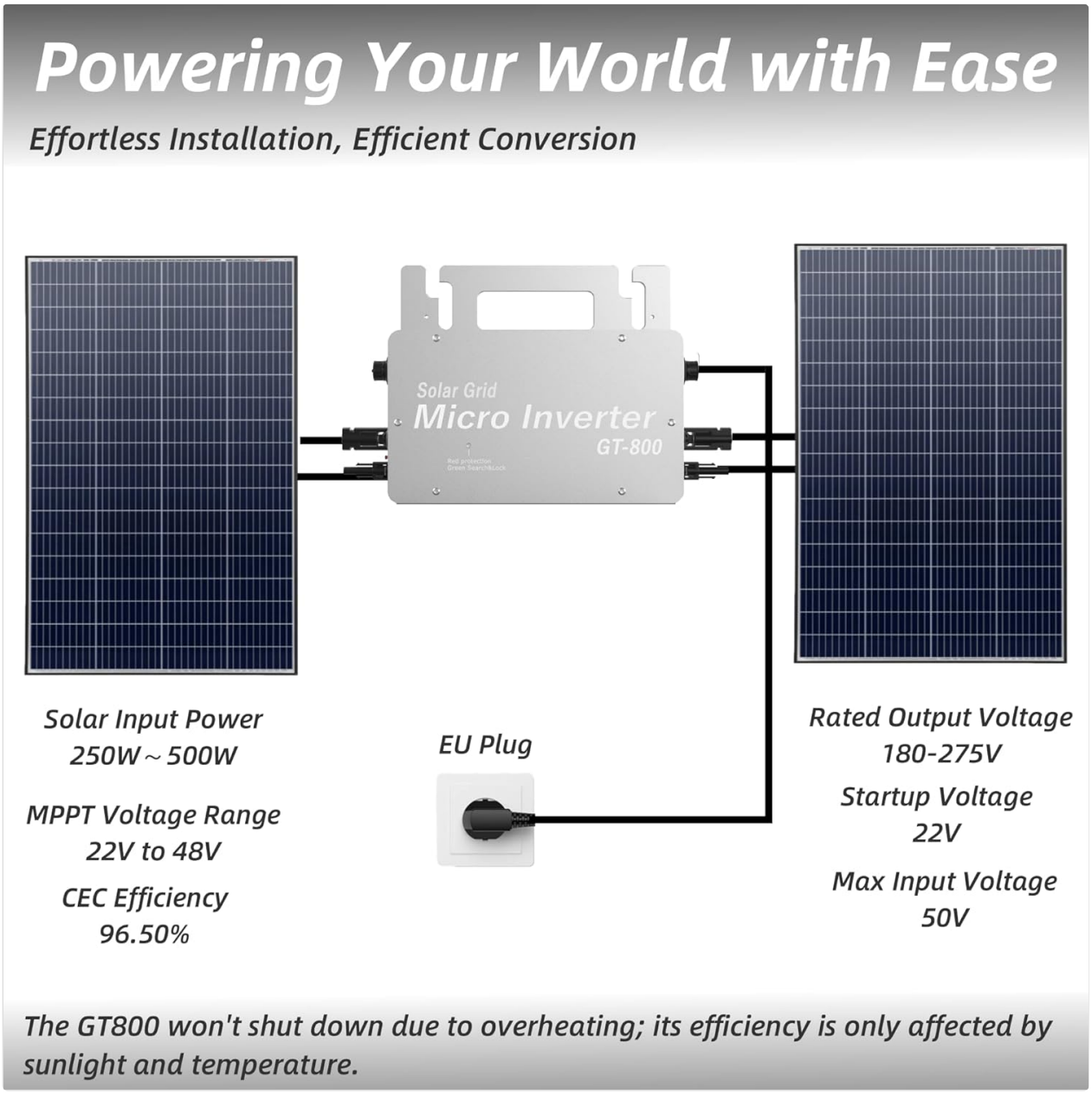

Figure 3: Basic installation diagram illustrating solar panel and AC grid connections.

Figure 4: Example of a parallel installation with two GT-800 micro inverters and four solar panels.

6. Operation

The Erayak GT-800 Micro Inverter features advanced technology for optimal performance and monitoring.

6.1 MPPT Technology

The inverter utilizes Maximum Power Point Tracking (MPPT) technology to optimize the current detection of solar panels. With a CEC efficiency of 96.5%, the dual MPPT tracker ensures optimal performance by accurately capturing and converting sunlight into electricity, maximizing power output by over 25% compared to systems without MPPT.

6.2 WiFi SmartLife App Monitoring

The GT-800 allows for remote control and monitoring via the SmartLife mobile application. This application enables you to:

- Monitor electricity production efficiency in real-time.
- Track energy capture and consumption.

- Control the inverter's switching system remotely.

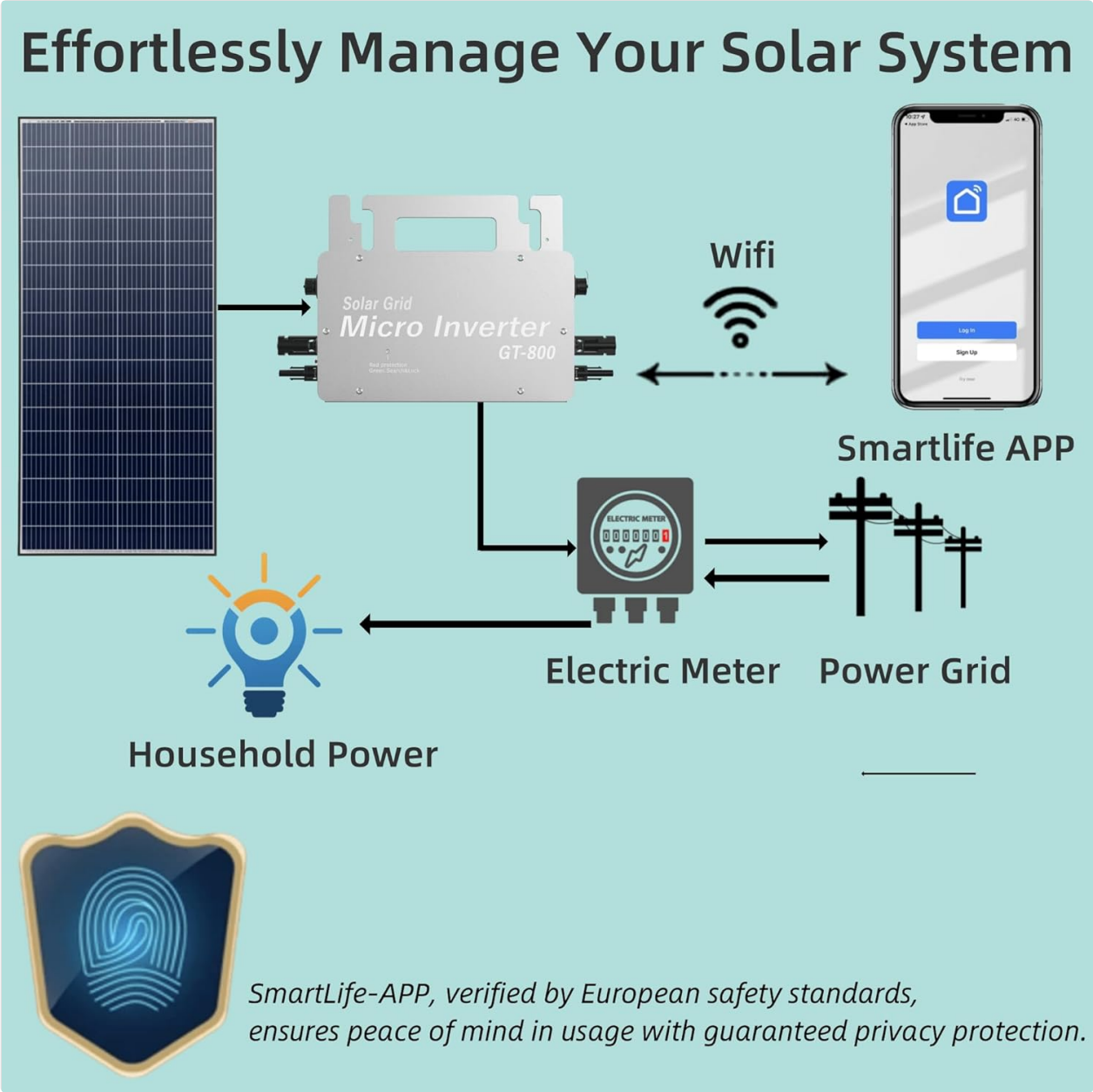

Figure 5: System overview demonstrating connectivity with the SmartLife App for monitoring.

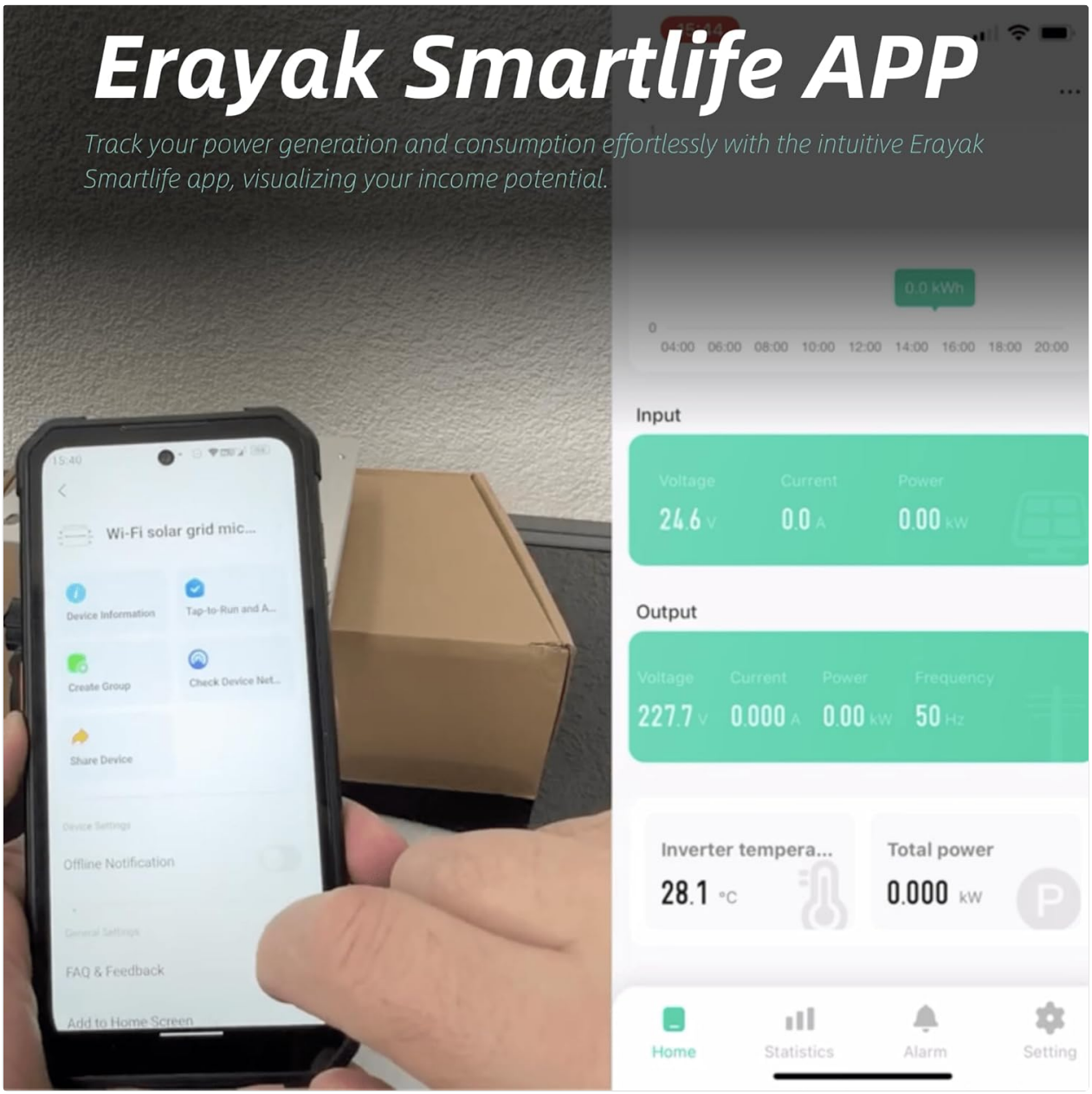

Figure 6: The Erayak SmartLife App interface displaying real-time operational data.

6.3 Auto-Cooling Feature

The GT-800 incorporates an auto-cooling technology. At high temperatures, the inverter automatically cools itself. The minimum power output is 400W during this process. After cooling, the output power automatically increases to maximize energy consumption and prevent overheating shutdowns.

Figure 7: Performance graph demonstrating the GT-800's overheat shutdown prevention mechanism, maintaining output even at elevated temperatures.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your Erayak GT-800 Micro Inverter:

- **Cleaning:** Periodically clean the exterior of the inverter to remove dust and debris. Use a soft, damp cloth. Do not use harsh chemicals or abrasive materials.
- **Connections:** Annually inspect all electrical connections (MC4 and AC) for tightness and signs of corrosion. Ensure they are secure.
- **Ventilation:** Ensure that the area around the inverter is clear to allow for proper airflow and cooling.
- **Monitoring:** Regularly check the SmartLife App for any error messages or unusual performance readings.

8. Troubleshooting

This section provides solutions to common issues you might encounter with your Erayak GT-800 Micro

Inverter.

Problem	Possible Cause	Solution
No power output	No sunlight, DC input voltage too low, AC grid disconnected, inverter fault.	Check solar panel connections and sunlight conditions. Verify AC grid connection. If issue persists, contact support.
Low power output	Shading on panels, dirty panels, high ambient temperature (auto-cooling engaged), panel degradation.	Clear shading, clean panels. Ensure adequate ventilation. Monitor app for temperature readings.
WiFi connection issues	Weak WiFi signal, incorrect network settings, app error.	Ensure inverter is within WiFi range. Reconfigure WiFi settings in the app. Restart the app or inverter.
Inverter overheating	Insufficient ventilation, prolonged high ambient temperature.	Ensure proper airflow around the inverter. The auto-cooling feature will reduce output to prevent damage. If persistent, relocate to a cooler spot.

9. Warranty and Support

The Erayak GT-800 Micro Inverter comes with a **5-year warranty**. Erayak provides a German repair service and 24-hour technical support for any inquiries or issues you may encounter.
For technical assistance or warranty claims, please contact Erayak customer service through the contact information provided with your purchase or on the official Erayak website.

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