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› [POWLSOJX](#) /

› [POWLSOJX UDM-GS 800W Micro Grid-Tie Inverter with Battery Storage User Manual](#)

POWLSOJX UDM-GS 800W

POWLSOJX UDM-GS 800W Micro Grid-Tie Inverter User Manual

Model: UDM-GS 800W | Brand: POWLSOJX

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your POWLSOJX UDM-GS 800W Micro Grid-Tie Inverter. This device is designed to convert DC power from solar panels or batteries into AC power for grid-tied applications, featuring multiple connection modes and APP control for flexible energy management. Please read this manual thoroughly before installation and use, and retain it for future reference.

2. PRODUCT FEATURES

- **Versatile Compatibility:** Compatible with mainstream PV modules and 36V/48V batteries (24V can work but is not recommended). Max PV panel input: 2 * 450Wp.
- **Multiple Connection Modes:** Offers 6 flexible modes for efficient, versatile, and user-friendly operation, supporting simultaneous inverting and battery storage.
- **High-Performance MPPT:** Built-in Maximum Power Point Tracking (MPPT) optimizes energy harvesting from solar panels, accurately capturing the maximum output power point to significantly increase power generation.
- **Remote Monitoring & Control:** Integrated WiFi for remote monitoring and mobile application control, allowing real-time tracking of voltage, current, real-time power generation, and total power generation.
- **Durable & Weatherproof Design:** Full aluminum alloy casing facilitates heat dissipation, ensuring durability and lightweight construction. IP65 waterproof rating makes it suitable for outdoor use.
- **Built-in Safety Mechanisms:** Includes multiple safety features for secure installation and operation.

3. PACKAGE CONTENTS

Upon opening the package, verify that all items listed below are present and undamaged:



Image: Contents of the Micro Inverter package, including the inverter unit, cables, and manual.

- POWLSOJX UDM-GS 800W Micro Grid-Tie Inverter

- AC Output Cable
- Mounting Screws and Accessories
- User Manual
- Optional: External Limiter (if purchased)

4. PRODUCT OVERVIEW

Familiarize yourself with the various components and connection points of the micro inverter.



Image: AC Quick Connector for grid connection.

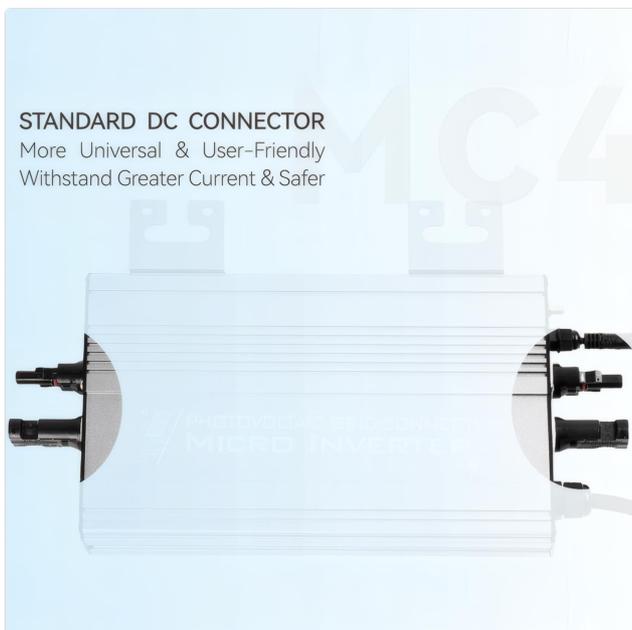
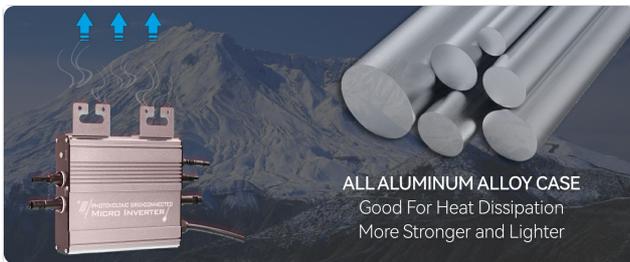


Image: Standard DC Input Connectors (MC4 compatible) for PV modules or batteries.



ALL ALUMINUM ALLOY CASE
 Good For Heat Dissipation
 More Stronger and Lighter

Image: All-aluminum alloy casing for enhanced heat dissipation and durability.



IP65 WATERPROOF
 Waterproof Droplet Spray
 For Indoor&Outdoor Use
 Comprehensive Protection

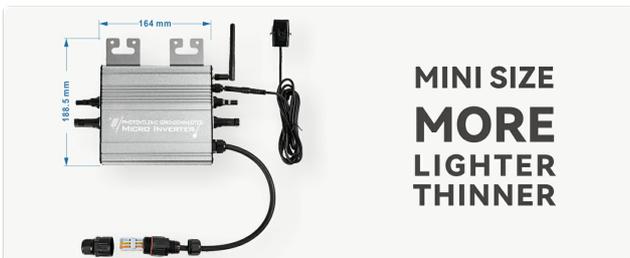
Image: IP65 waterproof rating, suitable for indoor and outdoor installations.



2.4G WIFI
 Built-In Wireless WIFI Function
 Easy Remote Monitoring Device
 Mobile APP Controls & Reviews

Real Time, Data, Timing
 Control, Regulation

Image: Built-in WiFi for remote monitoring and mobile APP control.



MINI SIZE
MORE
LIGHTER
THINNER

Image: Physical dimensions of the UDM-GS Micro Inverter.

5. SETUP & INSTALLATION

Follow these steps for proper installation and connection of your micro inverter.

5.1 Mounting the Inverter

The inverter should be mounted in a well-ventilated area, preferably out of direct sunlight, using the provided mounting brackets and screws. Ensure sufficient clearance around the unit for proper heat dissipation.

5.2 Electrical Connections

Refer to the following video for a visual guide on connecting the micro inverter to solar panels and the grid.

Your browser does not support the video tag.

Video: Demonstrates the unboxing and connection process for a similar micro inverter model, including DC input from PV modules and AC output to the grid.

1. **DC Input Connection:** Connect your solar PV modules or battery to the DC input terminals of the inverter. Ensure correct polarity (positive to positive, negative to negative). The inverter supports 20V-60V PV input and 36V/48V batteries.
2. **AC Output Connection:** Connect the AC output cable from the inverter to your home's electrical grid. This connection should be performed by a qualified electrician to ensure compliance with local electrical codes.
3. **Limiter Connection (Optional):** If using the external limiter function for zero export, connect the limiter sensor as per the instructions provided with the limiter unit.

For detailed wiring diagrams and safety precautions, consult the included specification sheet and consider professional installation.

6. OPERATING MODES

The UDM-GS Micro Inverter supports six distinct operating modes, allowing for flexible power generation and consumption management. These modes can be configured via the mobile application.

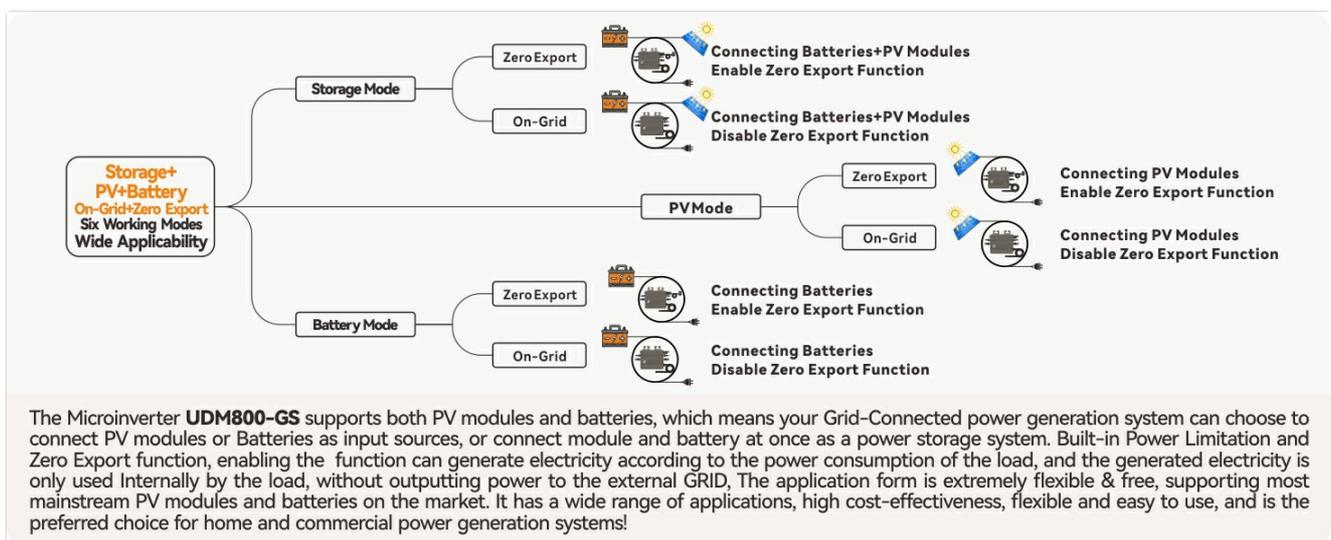


Image: Overview of the six available operating modes for the UDM-GS Micro Inverter.

- **Storage Zero Export Mode:** Connects batteries and PV modules, enabling zero export to the grid.
- **Storage On-Grid Mode:** Connects batteries and PV modules, disabling zero export to the grid.
- **PV Zero Export Mode:** Connects PV modules only, enabling zero export to the grid.
- **PV On-Grid Mode:** Connects PV modules only, disabling zero export to the grid.
- **Battery Zero Export Mode:** Connects batteries only, enabling zero export to the grid.
- **Battery On-Grid Mode:** Connects batteries only, disabling zero export to the grid.

The built-in Power Limitation and Zero Export function allows the inverter to generate electricity according to the power consumption of the load, ensuring generated electricity is primarily used internally without outputting power to the external grid when zero export is enabled.

7. OPERATION & MONITORING

The micro inverter features a built-in WiFi module for remote monitoring and control via a dedicated mobile application. This allows you to track performance and adjust settings from your smartphone or tablet.

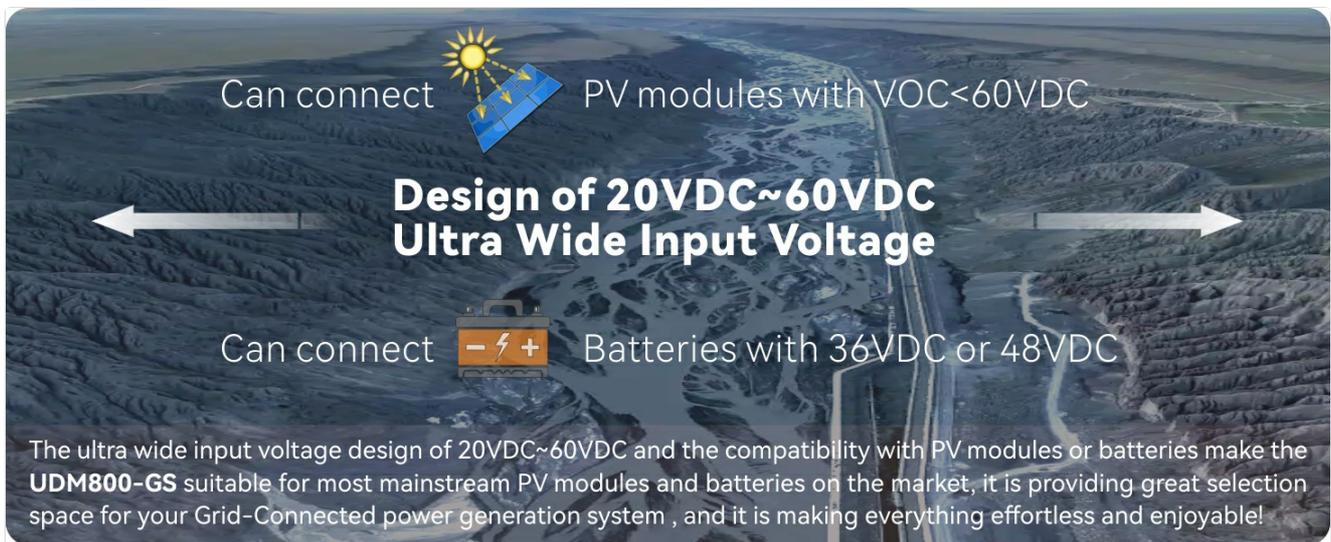


Image: Mobile application interface displaying real-time data and control options.

7.1 Mobile App Setup

1. Download the official POWLSOJX monitoring application from your device's app store.
2. Follow the in-app instructions to connect to your inverter's WiFi network.
3. Register your device and begin monitoring your system's performance.

7.2 Monitoring Data

The app provides real-time data including:

- Input Voltage (PV and Battery)
- Output AC Voltage and Current
- Real-time Power Generation (Watts)
- Total Power Generation (kWh)
- System Status and Error Codes

7.3 Power Limiter Function

The inverter features a power limitation function to prevent exporting excess power to the grid. This can be configured via the mobile app or an external limiter device.

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Video: Demonstrates the power limiter function of a Y&H Grid Tie Inverter, showing how it regulates output.

8. SPECIFICATIONS

Detailed technical specifications for the UDM-GS 800W Micro Grid-Tie Inverter:

Category	Parameter	Value
Product	Product Model	UDM-GS
	Input Connector	2 Sets (Left for PV or Battery, Right only for PV)
	Work Mode	PV or Battery & Storage & On-Grid or Zero Export (6 Modes)

Category	Parameter	Value
Input Data (DC)	Max PV Power (PV Mode)	2 * 450Wp
	Recommended Battery Voltage (Battery Mode)	36V or 48V Batteries (24V's can work, but not recommended)
	Max DC Open Circuit Voltage (VDC)	60VDC
	Startup Voltage	20VDC
	Max DC Input Current	2 * 15A
	MPPT Tracking Accuracy (PV Mode)	99%
Output Data (AC)	Max AC Output Power (Wp)	750Wp
	Nominal Voltage/Range (VAC)	180-265VAC (208VAC, 220VAC, 240VAC)
	Nominal Frequency (Hz)	@50Hz: 47.5Hz-52.5Hz @60Hz: 57.5Hz-62.5Hz
	Total Harmonic Distortion	THD<5% (at rated power)
	Power Factor	>0.99 (at rated power)
	Rated Output Power (PV Mode)	750Wp
	Rated Output Power (Battery Mode)	450Wp
	Max Output Overcurrent Protection	6.3A
Efficiency	Weighted Average Efficiency (CEC)	93%
	Night Time Rate Loss (Wp)	0Wp
Protection Functions	Over/Under Voltage Protection	Yes
	Over/Under Frequency Protection	Yes
	Anti-Islanding Protection	Yes
	Over Current Protection	Yes
	Overheat and Over Temperature Protection	Yes
	Overload Protection	Yes
	Ambient Temperature Range	-40°C to +65°C
	Operating Temperature Range	-40°C to +65°C

Category	Parameter	Value
Physical	Environment Category Of Installation	Indoor and outdoor
	Waterproof Grade	IP65
	Cooling Mode	Natural Convection - No Fans
Other	Communications	WiFi / Frequency: 2.4 GHz Standards: IEEE 802.11/b/g/n
	Dimensions (W x H x D)	164 x 188.5 x 43mm (not include connectors and cable)
	Weight	1.35kg

9. MAINTENANCE

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

- **Visual Inspection:** Periodically check the inverter and all connections for any signs of damage, corrosion, or loose wiring.
- **Cleaning:** Keep the inverter's casing clean and free from dust and debris to ensure proper heat dissipation. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure that the area around the inverter remains clear and unobstructed to allow for adequate airflow.
- **Firmware Updates:** Check the mobile application or manufacturer's website for any available firmware updates to ensure your inverter has the latest features and bug fixes.

10. TROUBLESHOOTING

If you encounter issues with your micro inverter, refer to the following basic troubleshooting steps. For more complex problems, contact customer support.

- **No Power Output:** Check all DC and AC connections to ensure they are secure. Verify that solar panels are receiving sufficient sunlight and producing adequate voltage. Check circuit breakers.
- **Indicator Light Status:** Refer to the inverter's indicator light guide (usually found on the device or in the full manual) to diagnose status or error codes.
- **App Connectivity Issues:** Ensure your mobile device is connected to the correct WiFi network and that the inverter's WiFi is active. Restart both the inverter and your mobile device.
- **Reduced Power Output:** Check for shading on solar panels. Ensure all panels are clean. Verify that the operating mode is correctly configured.

Always disconnect power before performing any physical inspection or maintenance on the inverter.

11. WARRANTY & SUPPORT

POWLSOJX provides an after-sales guarantee for its products. In case of product faults, the company will determine the cause and offer free replacement parts or product replacement as necessary.

Your browser does not support the video tag.

Video: Illustrates the after-sales guarantee process, including fault determination, free replacement parts, and product replacement.
For technical support, warranty claims, or further assistance, please contact POWLSOJX customer service through the contact information provided on the product packaging or the official website. Please have your product model and purchase date ready when contacting support.