

## POWLAND POWLAND Solar Inverter WiFi Adapter

# POWLAND Solar Inverter WiFi Adapter User Manual

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of the POWLAND Solar Inverter WiFi Adapter. This device enables wireless communication between compatible off-grid hybrid inverters and a monitoring platform, allowing users to remotely monitor and control inverter parameters via a dedicated mobile application.

## 2. PRODUCT OVERVIEW

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The POWLAND Solar Inverter WiFi Adapter is designed to enhance the functionality of your off-grid inverter system by providing remote access capabilities. It facilitates real-time data monitoring and parameter adjustments, ensuring optimal performance and convenience.



Figure 1: POWLAND Solar Inverter WiFi Adapter and connection cable. This image displays the main components of the WiFi adapter kit, including the adapter unit with its antenna and the accompanying connection cable with an RJ45 end.

**Key Features:**

- Wireless communication for off-grid inverters.
- Remote monitoring and control via mobile application.
- Access to historical data.
- Support for WEP, WPA/WPA2 hardware encryption.
- Modbus TCP network layer communication protocol.

**3. SPECIFICATIONS**

The following table details the technical specifications of the POWLAND Solar Inverter WiFi Adapter:

Feature	Specification
Wifi Communication Protocol	802.11 b/g/n
Hardware Encryption	WEP, WPA/WPA2

Feature	Specification
Wifi Operation Frequency	2.4G
Wifi Wireless Gain	2.5dBi
Wifi Communication Distance	100 meters (open environment)
Maximum Transmit Rate of Wifi	72Mbps
Maximum Transmit Power of Wifi	18.5dbm (70mW)
Software WatchDog	Yes
Local Communication Interface	RS232
Network Layer Communication Protocol	Modbus TCP
Working Mode	AP/STA
Parameter Setting Way	Mobile APP
External Power Input	5V-12V
Power Consumption	2 watt (max.)
Operating Temperature	-20°C ~ 75°C
Operating Humidity	0 ~ 95%
Storage Temperature	-30°C ~ 80°C
Dimensions (D x W x H)	28 x 46 x 172 mm
Net Weight	120g
Product Number (PN)	<a href="#">QA521213668390</a>

## 4. SETUP INSTRUCTIONS

Follow these steps to properly set up your WiFi adapter:

1. **Physical Connection:** Locate the RS232 communication port on your compatible off-grid hybrid inverter. Connect the provided cable from the WiFi adapter to this port. Ensure the connection is secure.



Figure 2: Bottom view of the WiFi adapter. This image shows the RS232 connector port on the adapter, which connects to the inverter.

2. **Power Supply:** The adapter typically draws power directly from the inverter via the RS232 port (5V-12V). Verify that your inverter is powered on and supplying the necessary voltage.
3. **Mobile Application Installation:** Download the compatible mobile application for your POWLAND inverter system from your device's app store. Search for "POWLAND Inverter" or refer to your inverter's manual for the correct app name.
4. **Network Configuration:** Open the mobile application. Follow the in-app instructions to connect the WiFi adapter to your local 2.4G WiFi network. This usually involves selecting your network, entering the password, and confirming the connection.



Figure 3: Top-down view of the WiFi adapter. This image highlights the adapter's antenna and the label with the product number [QA521213668390](#), indicating its unique identifier.

## 5. OPERATING INSTRUCTIONS

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Once the WiFi adapter is successfully set up and connected to your network, you can begin operating it through the mobile application:

1. **Monitoring Inverter Status:** Launch the mobile application. You should see real-time data and the operational status of your connected inverter. This includes power generation, battery status, and load information.

2. **Accessing Historical Data:** The application allows you to view historical performance data, enabling you to track trends and analyze your system's efficiency over time.
3. **Setting Parameters:** Use the application to adjust various parameters of your inverter remotely. Refer to your inverter's specific manual and the app's interface for available settings.

## 6. MAINTENANCE

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To ensure the longevity and optimal performance of your POWLAND Solar Inverter WiFi Adapter, consider the following maintenance guidelines:

- **Cleaning:** Keep the adapter clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid cleaners or solvents.
- **Environmental Conditions:** Ensure the adapter is operated within its specified temperature and humidity ranges (-20°C to 75°C, 0-95% humidity). Avoid exposing it to direct sunlight, excessive moisture, or extreme temperatures.
- **Firmware Updates:** Periodically check the mobile application or the POWLAND official website for any available firmware updates for the WiFi adapter. Keeping the firmware updated can improve performance and security.
- **Connection Integrity:** Occasionally check the physical connection between the adapter and the inverter to ensure it remains secure.

## 7. TROUBLESHOOTING

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If you encounter issues with your WiFi adapter, refer to the following troubleshooting steps:

- **No Connection to Inverter:**
  - Verify the RS232 cable is securely connected to both the adapter and the inverter.
  - Ensure the inverter is powered on and functioning correctly.
- **No WiFi Connection:**
  - Check if your 2.4G WiFi network is active and within range (up to 100 meters in open environment).
  - Confirm the WiFi password entered in the mobile app is correct.
  - Restart your home router and the inverter, then attempt to reconnect.
- **Data Not Updating in App:**
  - Ensure your mobile device has an active internet connection.
  - Check the status indicator on the WiFi adapter (if present) to confirm it's connected to the network.
  - Close and reopen the mobile application. If the issue persists, try reinstalling the app.
- **Inverter Parameters Cannot Be Set:**
  - Ensure the adapter has a stable connection to both the inverter and the WiFi network.
  - Verify that the specific parameters you are trying to adjust are supported for remote modification by your inverter model.

## 8. WARRANTY AND SUPPORT

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For warranty information, please refer to the documentation provided with your POWLAND inverter or contact POWLAND customer support directly. If you require technical assistance or have questions not covered in this manual, please reach out to POWLAND customer service through their official website or contact channels.