

Fablestoryem WVC-1600W

Fablestoryem WVC-1600W MPPT Solar Grid Tie Micro Inverter User Manual

Model: WVC-1600W | Brand: Fablestoryem

1. INTRODUCTION

This manual provides essential instructions for the safe installation, operation, and maintenance of your Fablestoryem WVC-1600W MPPT Solar Grid Tie Micro Inverter. This device efficiently converts DC power from solar panels (22-60V) into AC power (120-230V) for grid connection, featuring WiFi connectivity for monitoring and an IP65 waterproof design for outdoor use.

Key features include:

- **Efficient Power Conversion:** Utilizes a powerful MPPT algorithm to maximize solar energy harvesting.
- **Smart Monitoring:** Integrated WiFi for mobile app monitoring of your solar power system.
- **Weatherproof Design:** IP65 waterproof rating and aluminum alloy casing ensure durability in outdoor environments.
- **Automatic Voltage Identification:** Supports automatic identification of 120V/230V AC output voltage.
- **Pure Sine Wave Output:** Provides high-quality power compatible with grid standards.

2. IMPORTANT SAFETY INFORMATION

WARNING: To reduce the risk of electric shock, always follow these instructions to ensure safe installation and operation. Improper installation or use can result in serious injury or death.

- Read all instructions before installing or using the inverter.
- Installation must be performed by qualified personnel in accordance with local electrical codes and regulations.
- Ensure the DC input voltage from solar panels is within the specified range (22-60V).
- Verify AC output voltage (120V/230V) matches your grid requirements.
- Always disconnect power from both the DC input and AC output before performing any maintenance or service.
- Do not attempt to open or repair the inverter yourself. Contact qualified service personnel.
- Ensure proper grounding of the inverter.
- Avoid miswiring the live, neutral, and ground wires during AC connection.

3. PACKAGE CONTENTS AND PRODUCT OVERVIEW

3.1 Package Contents

Verify that all items are present in the package:

- WVC-1600W Micro Inverter (1 unit)
- AC Cable (1 unit)
- Fixing Screw Kit (1 set)
- User Manual (1 unit)

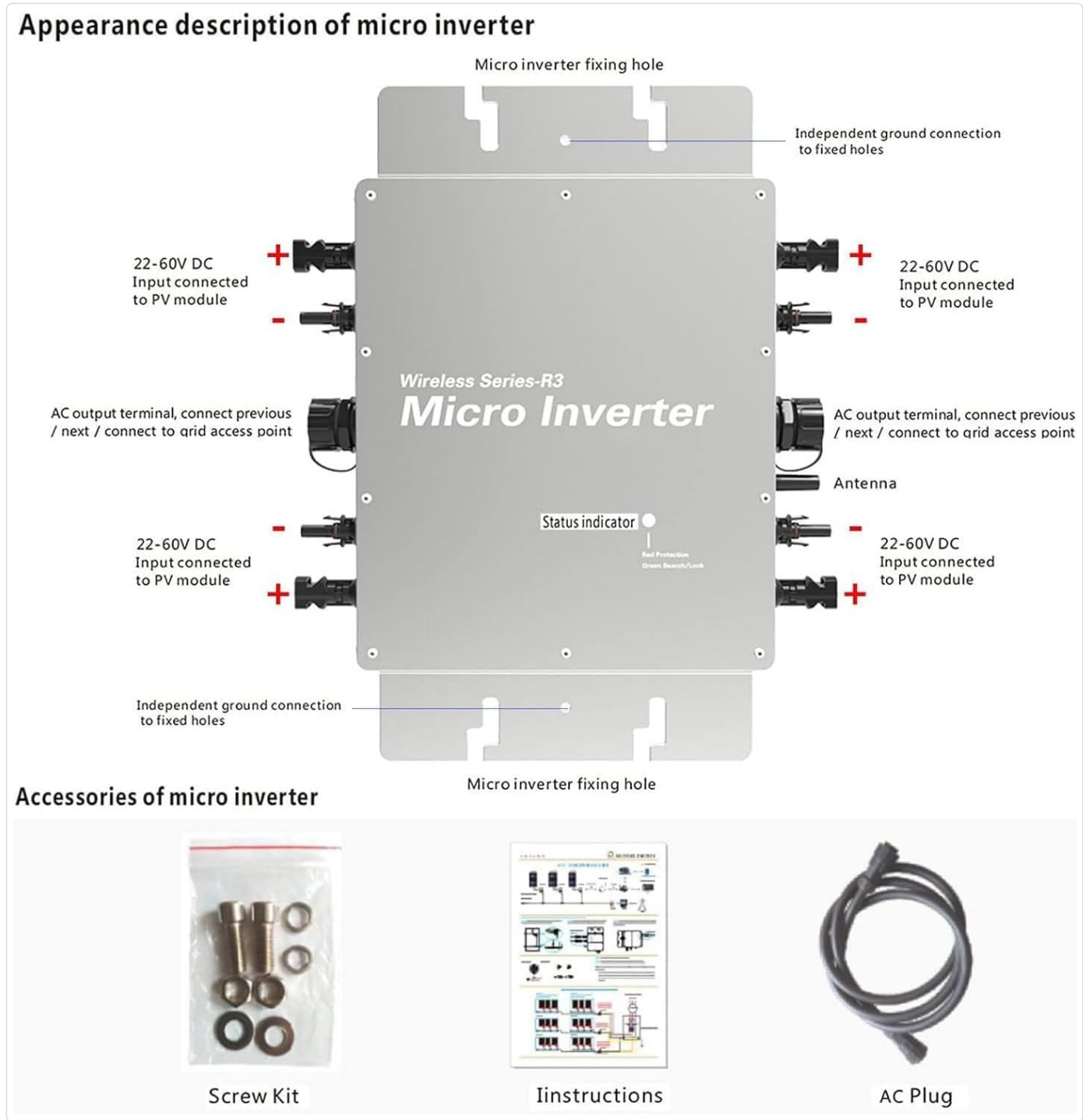
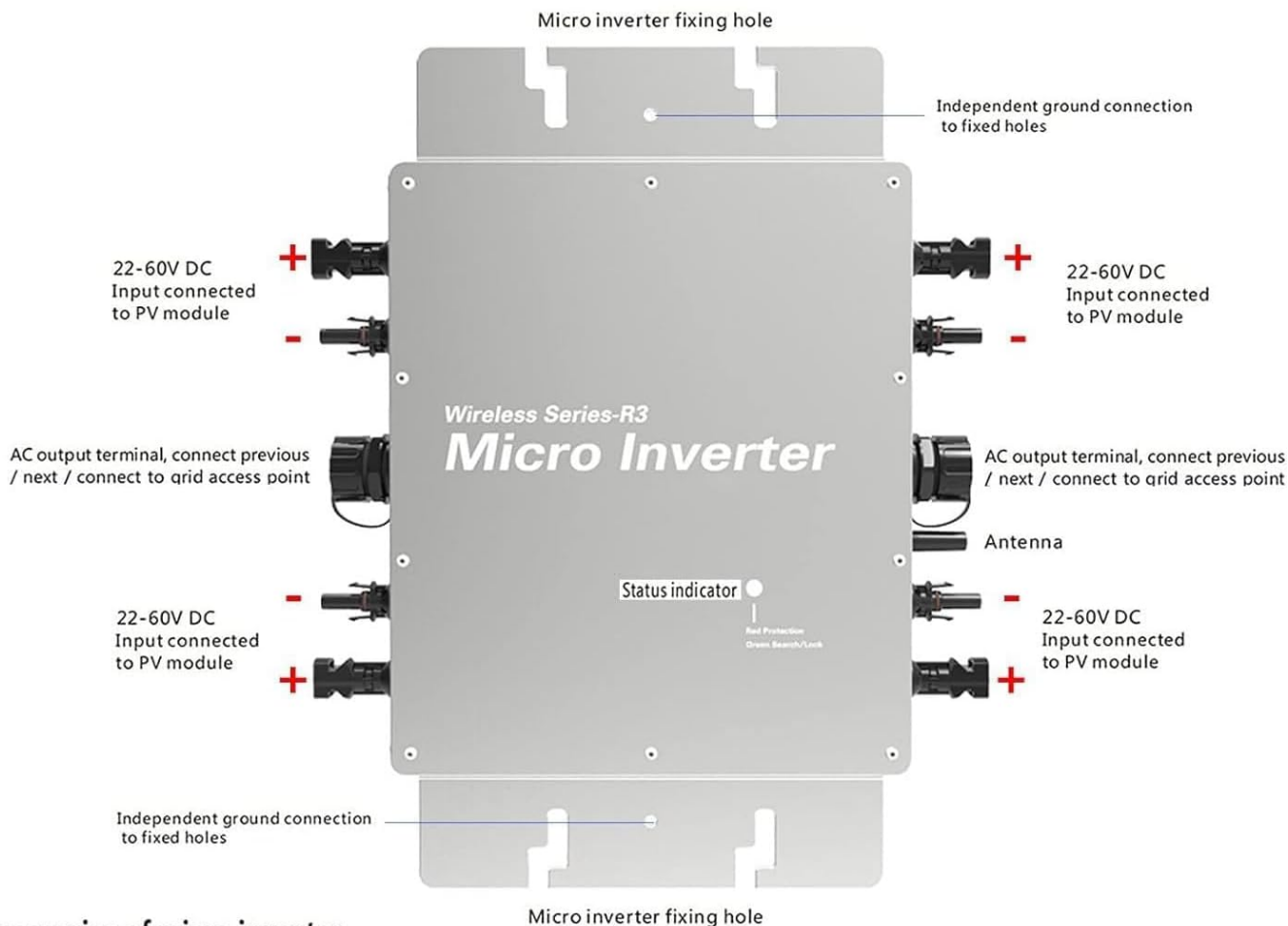


Figure 3.1: Included accessories with the micro inverter, showing the screw kit, instructions, and AC plug.

3.2 Product Appearance and Connections

The WVC-1600W micro inverter features a streamlined design with an aluminum alloy casing, ensuring durability and efficient heat dissipation. The IP65 rating protects against dust and water ingress.

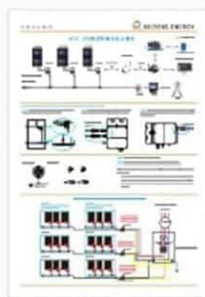
Appearance description of micro inverter



Accessories of micro inverter



Screw Kit



Iinstructions



AC Plug

Figure 3.3: Detailed view of the micro inverter's appearance, indicating DC input terminals (22-60V), AC output terminal, independent ground connections, and antenna.

The inverter includes multiple DC input ports for connecting photovoltaic modules and an AC output terminal for grid connection. An antenna is provided for WiFi communication.

4. INSTALLATION GUIDE

Follow these steps carefully for safe and correct installation of the micro inverter. Ensure all safety precautions are observed.

4.1 System Composition Diagram

Grid Tie Micro Inverter System composition diagram

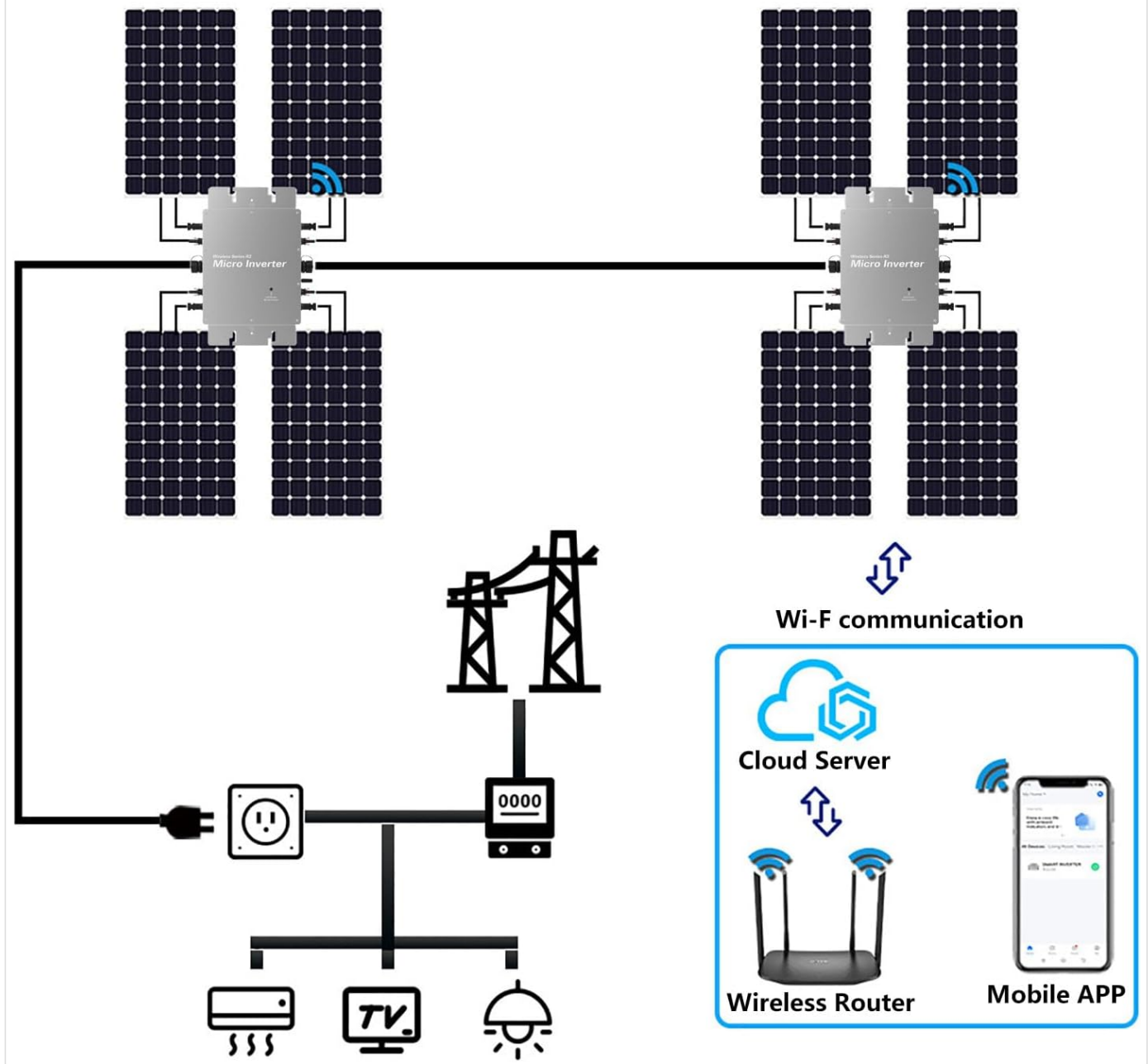


Figure 4.1: Diagram illustrating the overall system composition, including solar panels, micro inverters, connection to the power grid, and remote monitoring via WiFi and a mobile application.

4.2 Step-by-Step Installation

1. **Mount the Inverter:** Use the provided fixing screws to securely attach the inverter to the photovoltaic panel bracket. Ensure the mounting location allows for adequate ventilation and is protected from direct sunlight if possible, despite its waterproof rating.
2. **Connect DC Input:** Connect the positive and negative poles of the DC connection plug from the photovoltaic panel(s) to the corresponding DC input terminals on the inverter. Ensure correct polarity. The DC input is designed with MC4 connectors to prevent reverse polarity.
3. **Connect AC Output:** Open the waterproof cover of the AC output connector on the inverter. Connect the AC cable to the waterproof AC socket. Ensure a secure and watertight connection.
4. **Connect to Main AC Line:** Connect the AC output line from the inverter to the main AC line of your electrical system. This connection should be performed by a qualified electrician.

5. **Repeat for Multiple Inverters (if applicable):** If installing multiple inverters, repeat steps 1-3 for each unit. Multiple inverters can be stacked arbitrarily to form a single-phase parallel stacking system.
6. **Connect to Grid:** Connect the main AC cable from your inverter system to the utility grid. This final connection initiates your green energy generation.

4.3 Multiple Inverter Installation and Wiring

Multiple inverters can be connected in a stacked configuration. There is no model limit, allowing for mixing and matching as needed. Each inverter operates independently without interference.

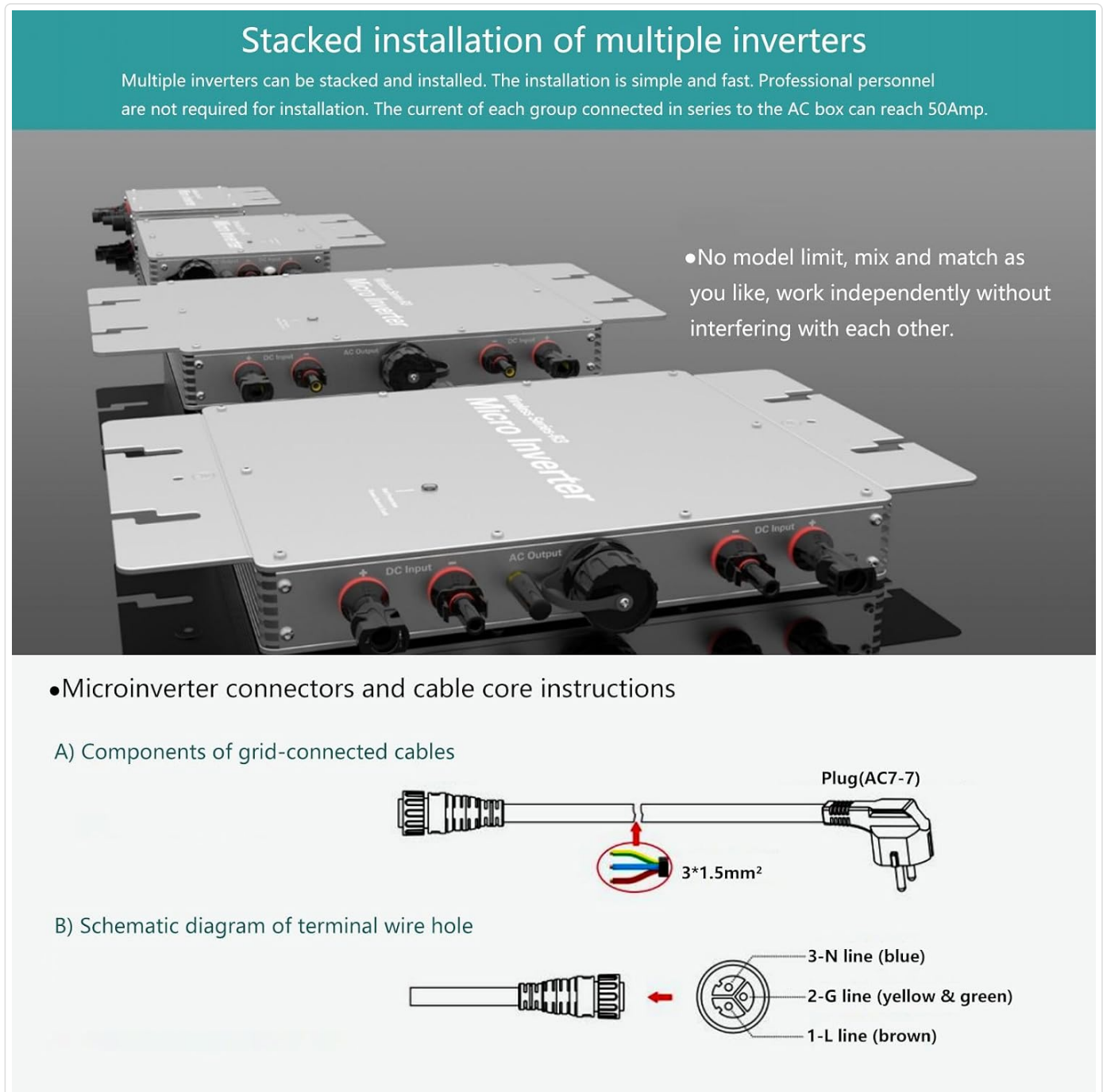


Figure 4.2: Illustration of multiple micro inverters installed in a stacked arrangement, along with a diagram detailing the grid-connected cable components and terminal wire hole schematic (L-brown, N-blue, G-yellow & green).

The current of each group connected in series to the AC box can reach 50 Amps.

Single-Phase Connection

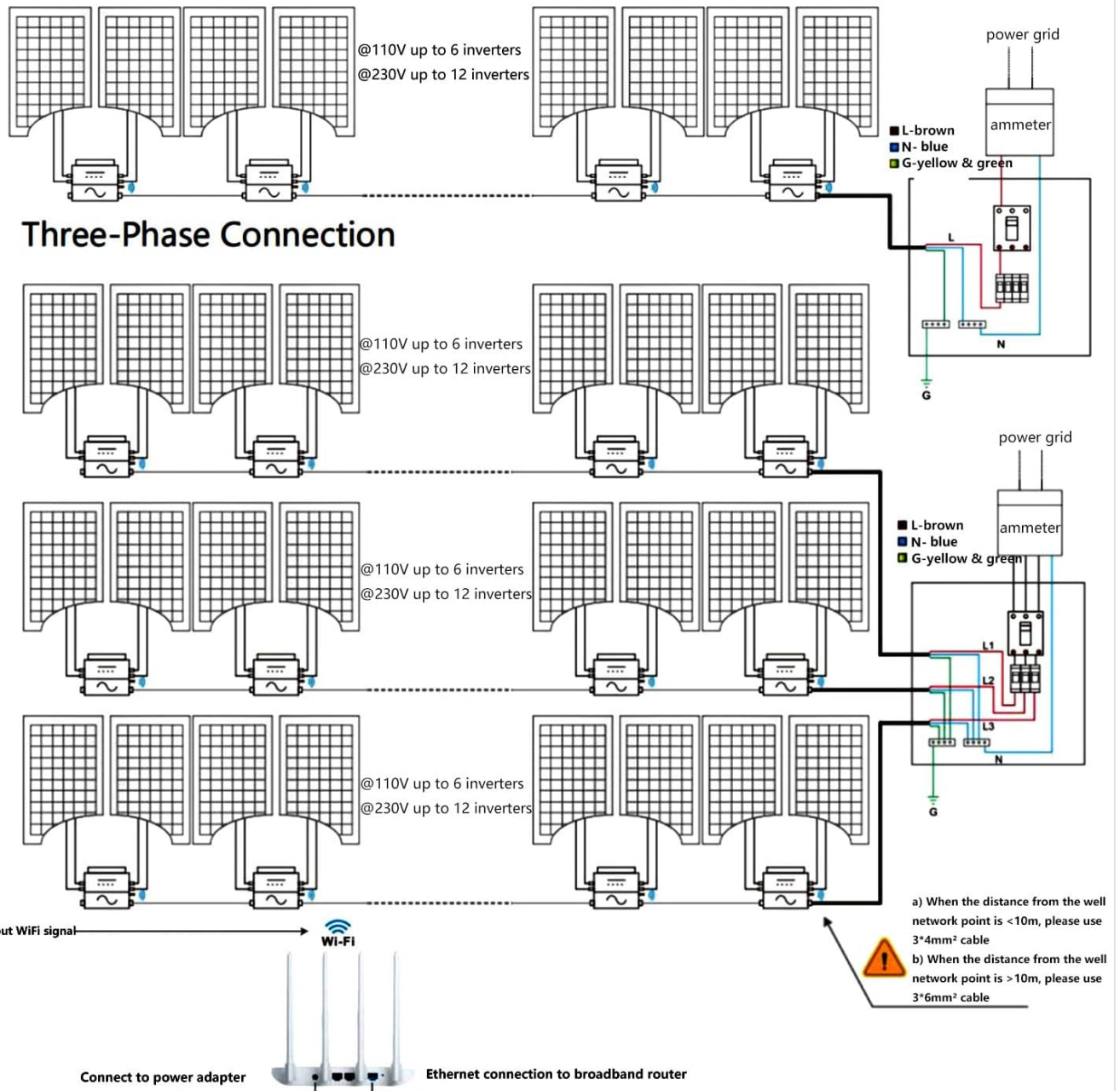


Figure 4.3: Wiring diagrams for both single-phase and three-phase connections of multiple micro inverters to the power grid. Includes notes on WiFi signal strength and cable requirements for longer distances.

For single-phase connections, up to 6 inverters can be connected at 110V, and up to 12 inverters at 230V. For three-phase connections, similar limits apply per phase. Ensure proper cable sizing; for distances over 10m from the network point, use 3*4mm² cable, and for distances over 20m, use 3*6mm² cable.

5. OPERATION AND MONITORING

The WVC-1600W inverter features WiFi connectivity and a mobile application for smart monitoring of your solar power system. This allows for real-time data analysis and control.

5.1 Mobile App Monitoring Setup (Wi-Fi Mode)

The Cloud Intelligence APP provides real-time data and graphical displays. It allows users to understand the working status and adjust the output power function of the system.

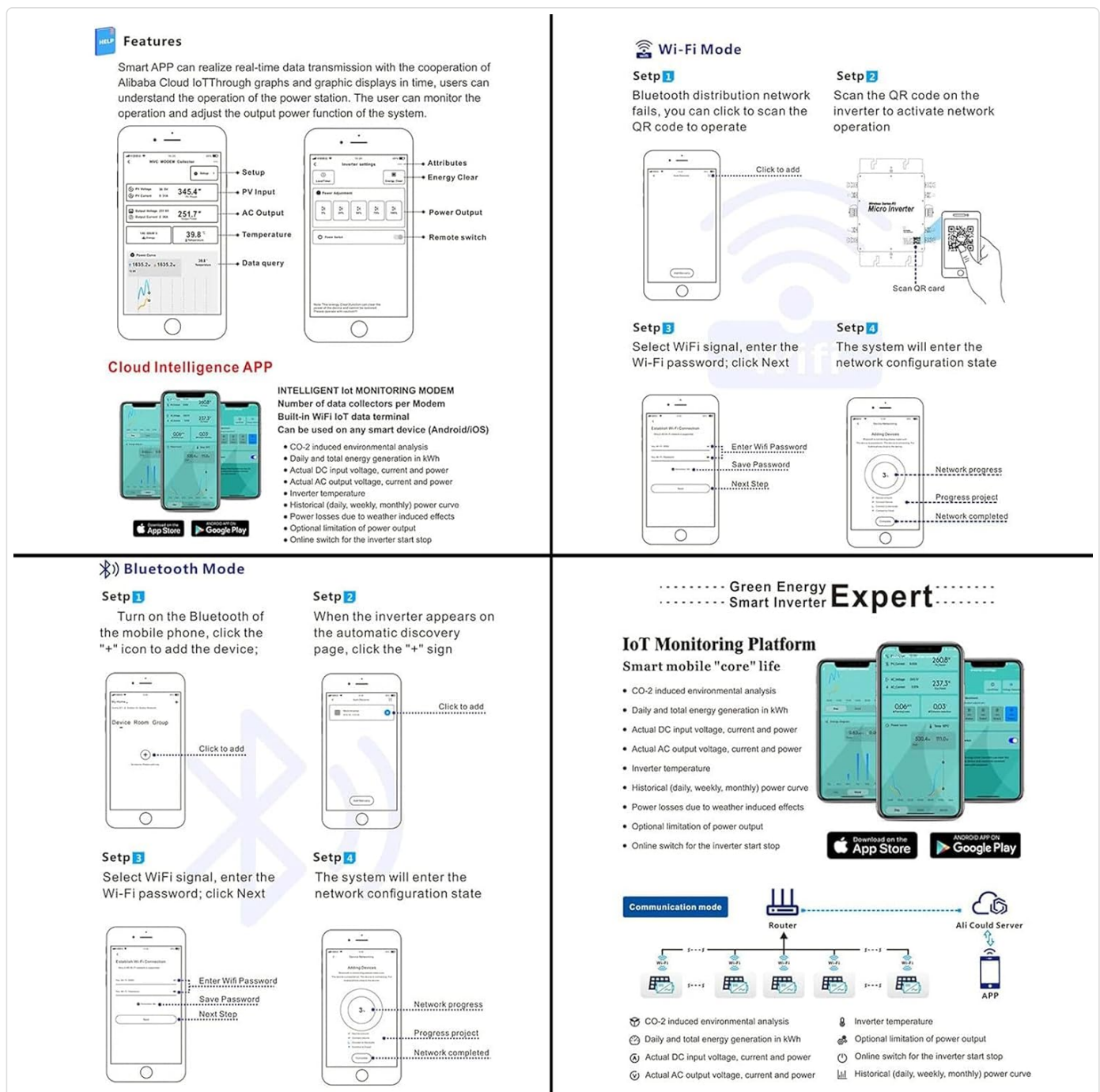


Figure 5.1: Step-by-step guide for setting up the mobile application in Wi-Fi mode, including scanning a QR code, selecting the Wi-Fi signal, entering the password, and monitoring the network configuration status.

- Download App:** Scan the QR code provided in the manual or on the inverter to download the Cloud Intelligence APP (available for Android/iOS).
- Activate Network:** If Bluetooth distribution network fails, you can scan the QR code to operate.
- Connect to Wi-Fi:** Select your Wi-Fi signal and enter the password.
- Monitor:** The system will enter the network configuration state, allowing you to monitor various parameters such as PV input, AC output, temperature, and power generation.

The app provides detailed environmental analysis, actual DC input voltage, current, power, inverter temperature, and historical power curve data.

6. MAINTENANCE

The WVC-1600W micro inverter is designed for minimal maintenance due to its robust IP65 waterproof and self-cooling

design. However, periodic checks are recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Periodically inspect the inverter and all connections for any signs of damage, corrosion, or loose wiring.
- **Cleaning:** If necessary, gently clean the exterior of the inverter with a soft, damp cloth. Do not use harsh chemicals or abrasive materials. Ensure the inverter is powered off before cleaning.
- **Connection Checks:** Ensure all DC and AC connections remain tight and secure.
- **Performance Monitoring:** Regularly check the inverter's performance via the mobile app to identify any anomalies.

7. TROUBLESHOOTING

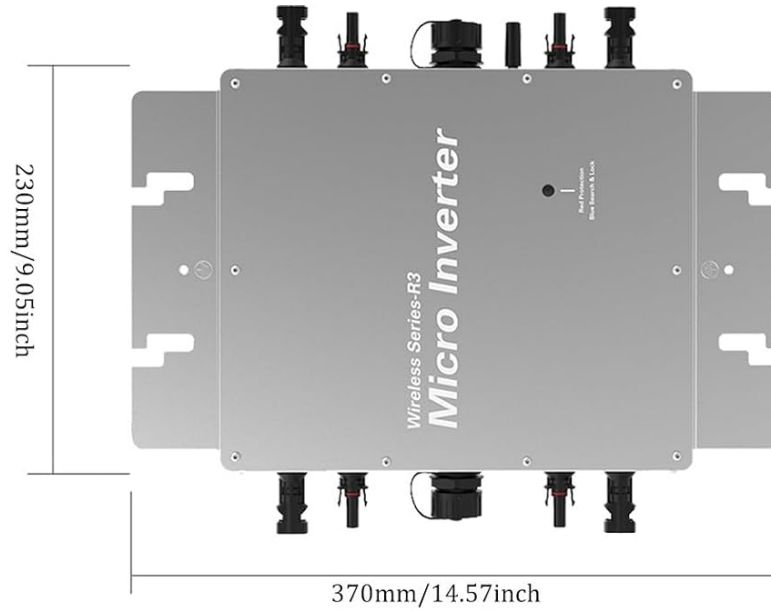
This section provides general guidance for common issues. For complex problems, contact customer support.

Problem	Possible Cause	Solution
No power output / Inverter not operating	No DC input from solar panels. Loose DC or AC connections. Grid power outage. Inverter fault.	Check solar panel connections and sunlight conditions. Verify all DC and AC cables are securely connected. Check grid status. The inverter will resume operation when grid power is restored. Contact customer support if the issue persists.
Low power output	Insufficient sunlight. Shading on solar panels. Dirty solar panels. Suboptimal panel angle.	Ensure panels are in full sun. Clear any obstructions causing shading. Clean solar panels regularly. Adjust panel angle for optimal sun exposure.
WiFi connection issues	Weak WiFi signal. Incorrect WiFi password. Router issues.	Ensure the inverter is within range of your WiFi router. Double-check the entered WiFi password. Restart your WiFi router. Refer to the APP setup instructions in Section 5.1.

8. TECHNICAL SPECIFICATIONS

Detailed technical specifications for the WVC-1600W Micro Inverter.

Product information



Product parameters

model	WVC-1600		Output efficiency	@120V	@230V
Recommend use panels	4*500Watt		Static MPPT efficiency	99.5%	99.5%
Output voltage mode	120/230V Auto switch		Max output efficiency	95%	95%
PV Open circuit voltage	33-60VDC		Loss of power at night	<0.5W	<0.5W
Operating voltage range	22-60V		Total current harmonics	<5%	<5%
Starting voltage range	22-60V		Appearance and technical features		
short-circuit current	2*16A		Temperature range	-20°C to +50°C	
Maximum working current	2*14A		Size (L×W×H)	370mm×230mm×41.6mm	
Output parameters	@120V	@230V	Net amount	3kg	
Output peak power	1600Watt	1600Watt	Waterproof grade	Ip65 NEMA3R	
Rated output power	1600Watt	1600Watt	Heat dissipation mode	Self-cooling	
Output current	5.9A	3.05A	Communication mode	Wi-Fi	
AC voltage range	85-160VAC	180-265VAC	Power transmission mode	Reverse transmission, Load priority	
AC frequency range	48-51Hz/58-61Hz	48-51Hz/58-61Hz	monitoring system	Mobile APP	
Power factor	>95%	>95%	Electromagnetic Detection	EN50081.part1EN50082.part1.CSASTD.C22.2 No.107.1	
Number of branch connections.	6 units(Single)	12 units(Single)	Power Grid standard	EN61000-3-2 EN62109.UL STD.1741	
			Power grid detection	DIN VDE0126 IEEE STD.1547.1 1547.A	
			Certificate	CEC.CE.INMETRO.VDE.EMC	

Figure 8.1: Comprehensive product information and technical parameters table for the WVC-1600W Micro Inverter, including electrical characteristics, dimensions, and certifications.

Parameter	Value
Model	WVC-1600W
Recommended Use Panels	4*500Watt
Output Voltage Mode	120/230V Auto Switch
PV Open Circuit Voltage	33-60VDC
Operating Voltage Range	22-60V
Starting Voltage	22-60V
Short-Circuit Current	2*16A
Maximum Working Current	2*14A

Parameter	Value
Rated Output Power	1600Watt
Output Current (@120V)	13.3A (Calculated from 1600W/120V)
Output Current (@230V)	6.95A (Calculated from 1600W/230V)
AC Voltage Range	85-160VAC (for 120V) / 180-265VAC (for 230V)
AC Frequency Range	48-51Hz/58-61Hz
Power Factor	>95%
Number of Branch Connections	6 units (Single) / 12 units (Single)
Output Efficiency (Static MPPT)	99.5%
Max Output Efficiency	95%
Loss of Power at Night	<0.5W
Total Current Harmonics	<5%
Temperature Range	-20°C to +50°C
Size (L*W*H)	370mm × 230mm × 41.6mm
Net Amount	3kg (approx. 6.6 lbs)
Waterproof Grade	IP65 NEMA3R
Heat Dissipation Mode	Self-cooling
Communication Mode	Wi-Fi
Power Transmission Mode	Reverse transmission, Load priority
Monitoring System	Mobile APP
Electromagnetic Detection	EN50081 part1, EN50082 part1, CSASTD.C22.2 No.107.1
Power Grid Standard	EN61000-3-2 EN62109.UL STD.1741
Power Grid Detection	DIN VDE0126 IEEE STD.1547.1 1547.A
Certificate	CEC, CE, INMETRO, VDE, EMC
Item Weight	8.8 pounds (approx. 4 kg)
Package Dimensions	16.73 x 14.96 x 4.92 inches

9. WARRANTY AND SUPPORT

Fablestoryem is committed to providing high-quality products. While specific warranty details are not provided in this manual, please retain your proof of purchase for any warranty claims.

For any questions, technical assistance, or if you encounter any issues after receiving your package, please contact the seller or Fablestoryem customer support as soon as possible. We are dedicated to providing a satisfactory resolution.

10. APPLICATION SCENARIOS

The WVC-1600W Micro Inverter is versatile and suitable for various solar power generation applications, including:

- Rooftop solar installations for residential and commercial buildings.
- Balcony solar systems.
- Off-grid or grid-tied systems for RVs, boats, and remote cabins.
- Portable solar setups for camping and outdoor activities.



Figure 10.1: Examples of diverse application scenarios for the micro inverter, demonstrating its use in residential rooftops, RVs, marine vessels, and portable outdoor power solutions.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question