Dawnice DWPF-10550110120-001

Dawnice 10KW 20KWH Hybrid Solar Power System User Manual

1. Introduction

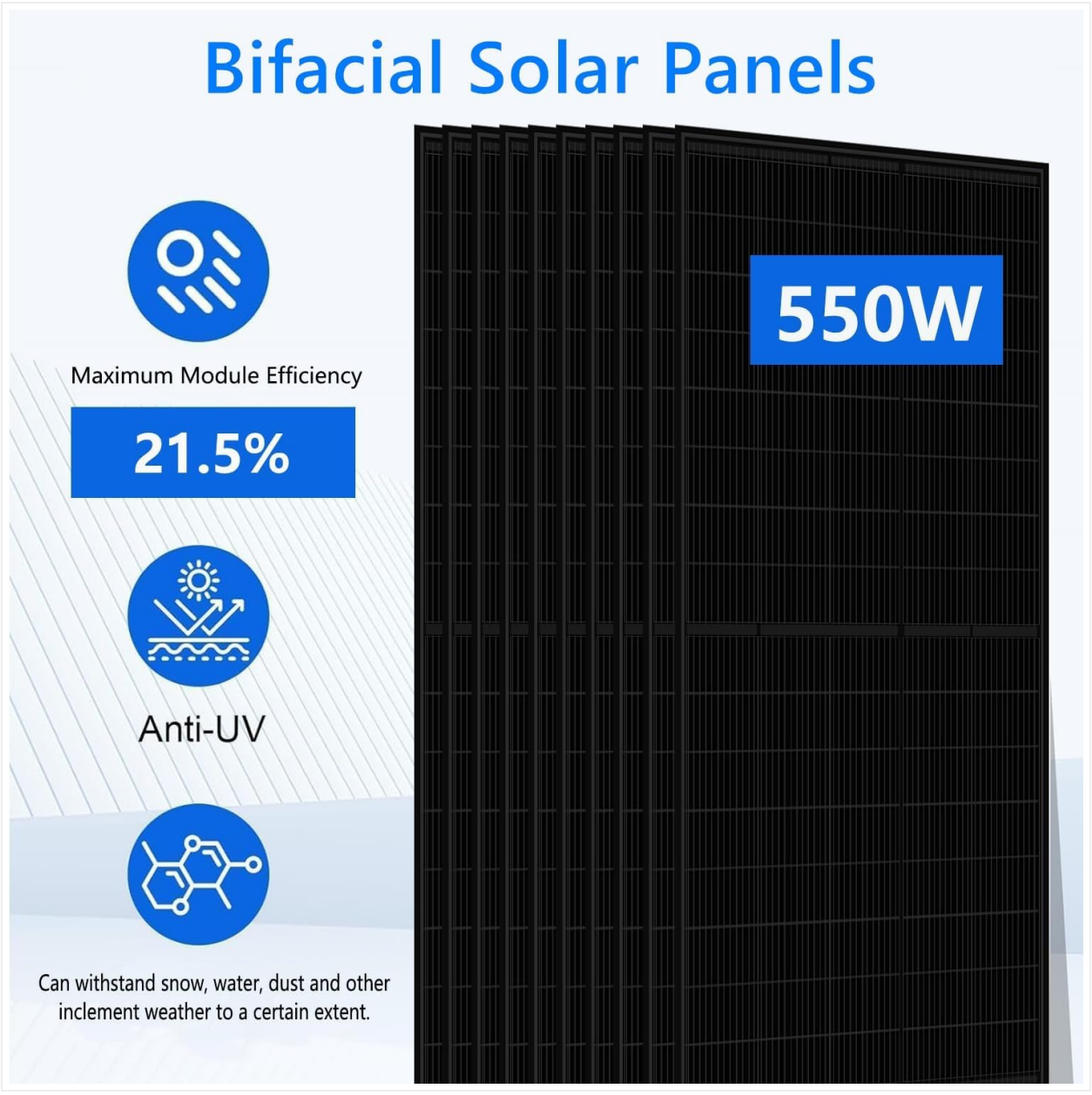
This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Dawnice 10KW 20KWH Hybrid Solar Power System. This comprehensive kit includes solar panels, a hybrid inverter, and a LiFePO4 battery, designed to provide reliable and independent power for your home or business. Please read this manual thoroughly before installation and use.

2. Product Components

The Dawnice 10KW 20KWH Hybrid Solar Power System includes the following main components:

- **Solar Panels:** 10 pieces of 550W solar panels (total 5.5KW capacity).
- **Hybrid Inverter:** One 48V 10KW Pure Sine Wave Hybrid Inverter with built-in MPPT controller.
- **LiFePO4 Battery:** One 51.2V 406Ah 20kWh Lithium Iron Phosphate battery.
- **Cables and Connectors:** Necessary cables and connectors for system integration.

An image showing the complete Dawnice 10KW 20KWH Hybrid Solar Power System components: ten black solar panels, a white 10KW hybrid inverter, a white 20KWH battery with the Dawnice logo, and various cables and connectors.



A close-up image of the bifacial solar panels, highlighting their 550W power output, 21.5% maximum module efficiency, anti-UV properties, and resistance to various weather conditions.

An image detailing the 51.2V 410Ah LiFePO4 battery, showing its 200A BMS, 10.24 kW maximum load power, and 20.99 kWh maximum energy capacity. The battery unit is white with the Dawnice logo and includes wheels for mobility.

An image illustrating key features of the 410Ah high-capacity battery, emphasizing its family-friendly design, long lifespan of over 6000 cycles, and lighter weight compared to lead-acid batteries.

An image showing rolls of red and black electrical cables, which are included for connecting the solar power system components.

3. Safety Information

WARNING: Installation and maintenance of this solar power system involve high voltage and current. Improper handling can result in serious injury or death. Only qualified personnel should perform installation and service.

- Always disconnect all power sources (solar panels, battery, grid) before performing any maintenance or service.
- Ensure proper grounding of all components.
- Do not expose the inverter or battery to water or excessive moisture.
- Wear appropriate personal protective equipment (PPE), including insulated gloves and eye protection.
- Keep children and unauthorized personnel away from the system components.
- Refer to local electrical codes and regulations for installation requirements.

4. Setup and Installation

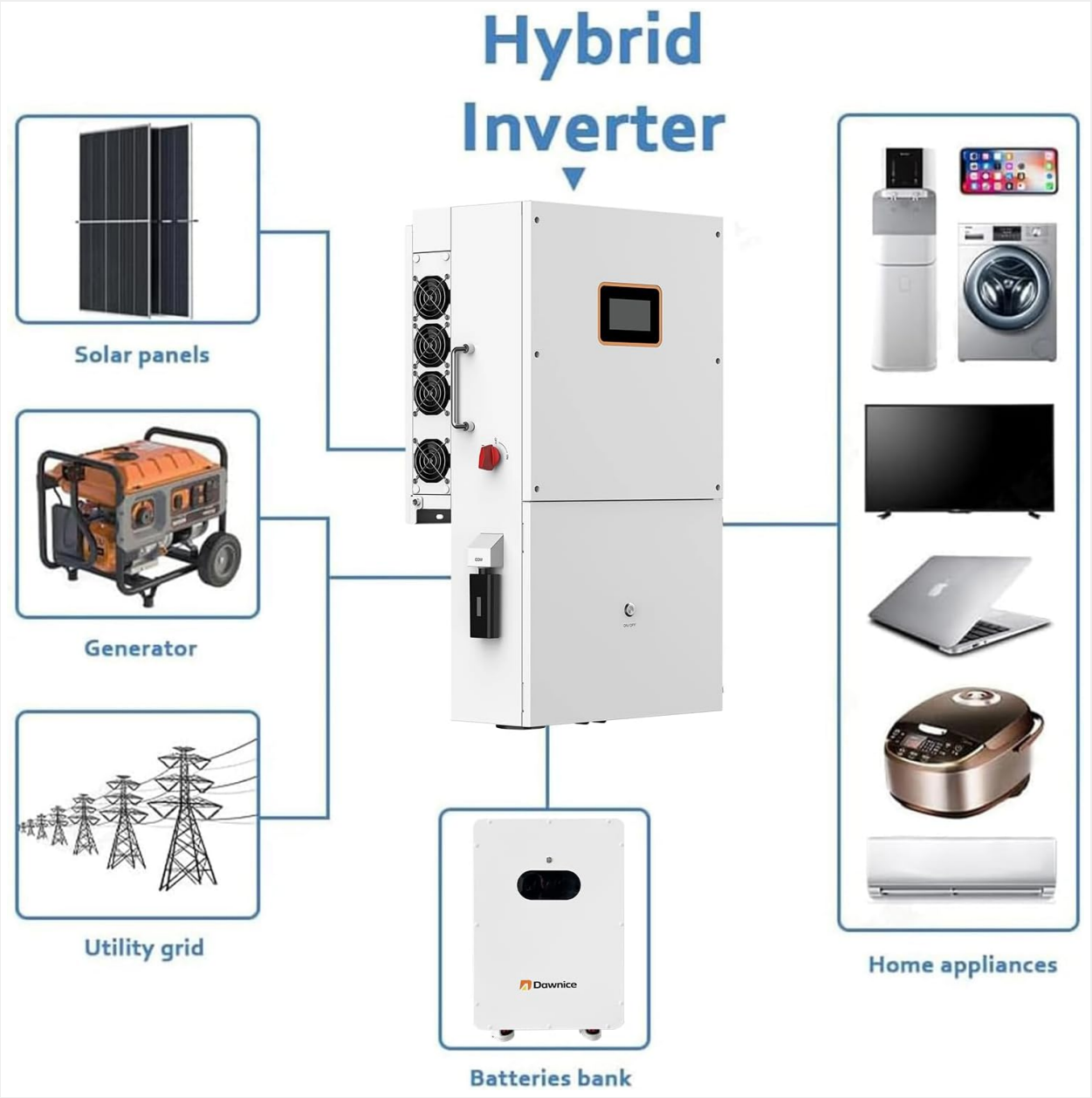
The installation of the Dawnice Hybrid Solar Power System requires careful planning and execution. It is recommended that a certified electrician or solar professional performs the installation.

4.1 Site Selection

- **Solar Panels:** Choose a location with maximum sun exposure throughout the day, free from shading. Ensure the mounting structure is robust enough to support the panels and withstand local weather conditions.
- **Inverter and Battery:** Install the inverter and battery in a cool, dry, well-ventilated area, away from direct sunlight, flammable materials, and corrosive substances. Ensure adequate clearance for airflow and maintenance.

4.2 Component Connection Overview

1. **Solar Panel Connection:** Connect the solar panels in series or parallel configurations as specified in the detailed wiring diagram (refer to the full product manual for specific diagrams). Ensure correct polarity.
2. **Inverter Installation:** Mount the hybrid inverter securely to a wall or suitable structure.
3. **Battery Connection:** Connect the LiFePO4 battery to the inverter's battery terminals, observing correct polarity.
4. **AC Output Connection:** Connect the inverter's AC output to your home's electrical panel.
5. **Grid Connection (Optional):** If connecting to the utility grid, ensure all local regulations and grid-tie requirements are met.
6. **Grounding:** Properly ground all system components according to local electrical codes.



A diagram illustrating the connections of the hybrid inverter within a solar power system. It shows inputs from solar panels, a generator, and the utility grid, and outputs to home appliances and a battery bank.

A schematic diagram showing a hybrid home solar power system. It illustrates solar panels on a roof connected to an inverter, which then connects to a battery and the home's electrical system, powering various appliances and potentially saving on electricity bills.

5. Operating Instructions

5.1 System Startup

1. Ensure all connections are secure and correct.
2. Turn on the battery breaker/switch.
3. Turn on the DC disconnect switch for the solar panels (if applicable).
4. Turn on the AC input breaker (if connected to the grid).
5. Turn on the inverter's main power switch. The inverter display will illuminate and begin its startup sequence.
6. Monitor the inverter display for system status and any error messages.

5.2 System Shutdown

1. Turn off the AC output breaker from the inverter to the load.
2. Turn off the AC input breaker (if connected to the grid).
3. Turn off the DC disconnect switch for the solar panels.
4. Turn off the battery breaker/switch.
5. Turn off the inverter's main power switch.

5.3 Monitoring

The inverter features a display panel that provides real-time information on system performance, including:

- Solar panel power generation.
- Battery charge/discharge status and state of charge (SOC).
- AC input/output voltage and current.

- Load consumption.
- Operational mode (e.g., grid-tie, off-grid, hybrid).

An image showcasing the Dawnice 10KW hybrid inverter, emphasizing its pure sine wave output and 10000W AC output, compatible with 95% of household appliances such as air conditioners, ovens, and blenders.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your solar power system.

- **Solar Panels:** Periodically clean the surface of the solar panels to remove dust, dirt, and debris. Inspect for any physical damage or loose connections.
- **Battery:** Check battery terminals for corrosion and ensure connections are tight. Monitor battery health through the inverter display.
- **Inverter:** Keep the inverter's ventilation openings clear of obstructions. Ensure the area around the inverter is clean and dry.
- **Cables and Connections:** Regularly inspect all cables and connections for signs of wear, damage, or overheating.
- **Professional Inspection:** It is recommended to have a qualified technician perform a comprehensive system inspection annually.

7. Troubleshooting

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

Problem	Possible Cause	Solution
No power output from inverter	Inverter off, battery low, solar input issue, AC breaker tripped.	Check inverter power switch, battery charge, solar panel connections, and AC breakers.
Low solar power generation	Shading on panels, dirty panels, faulty panel/connection.	Clear shading, clean panels, inspect panel connections.
Battery not charging	Solar input issue, inverter fault, battery connection issue.	Verify solar input, check inverter status, inspect battery connections.
Inverter displaying error code	Specific system fault.	Refer to the inverter's specific error code manual for detailed solutions.

8. Specifications

Model: DWPF-10550110120-001

Feature	Detail
Manufacturer	Dawnice
System Power Output	10KW
Battery Capacity	20KWH (51.2V 406Ah LiFePO4)
Solar Panel Quantity	10 pieces (550W each, total 5.5KW)
Inverter Type	48V 10KW Hybrid Inverter (Pure Sine Wave with MPPT)
Item Weight	Approximately 2600 pounds (total system)
Inverter Product Dimensions	23.62 x 2.76 x 27.56 inches
Color	White (Inverter/Battery)
Included Components	Solar panels, inverter, battery, cables

9. Warranty and Support

Dawnice provides a **10-Year limited Warranty** for this Hybrid Solar Power System. Additionally, lifetime technical support is available to assist with any questions or issues you may encounter.

For technical assistance, warranty claims, or general inquiries, please contact Dawnice customer support through the official website or your point of purchase. Please have your model number (DWPF-10550110120-001) and purchase date ready when contacting support.