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> [FLTXNY POWER 1000W 48V Vertical Axis Wind Turbine with MPPT Controller User Manual](#)

FLTXNY POWER 1000W 48V Vertical Axis Wind Turbine

FLTXNY POWER 1000W 48V Vertical Axis Wind Turbine with MPPT Controller

User Manual

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1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your FLTXNY POWER 1000W 48V Vertical Axis Wind Turbine with MPPT Controller. Please read this manual thoroughly before installation and operation to ensure optimal performance and longevity of the product.

The vertical axis wind turbine features a unique vertical blade design with a triangular double pivot point, concentrating main force points in the hub. This design minimizes issues such as blade loss or breakage. Its horizontal rotation and aircraft wing design contribute to low noise operation, making it suitable for various environments without disturbing nearby residents. The turbine is designed for high efficiency, effectively utilizing wind speeds from 2.5 to 25 m/s, and offers a smaller rotation radius compared to other windmill types, saving space while maintaining energy generation.

2. SAFETY INFORMATION

WARNING: Improper installation or operation can lead to serious injury or equipment damage. Always follow safety guidelines.

- Ensure all electrical connections are made by a qualified electrician.
- Wear appropriate personal protective equipment (PPE) during installation, including gloves, safety glasses, and a hard hat.
- Do not attempt to install or service the turbine during high winds or adverse weather conditions.
- Verify that the mounting structure is strong enough to support the weight and wind load of the turbine.

- Keep children and unauthorized personnel away from the installation area.
- Always disconnect power before performing any maintenance or inspection.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking. If any items are missing or damaged, contact your supplier immediately.

- 3 x Blades
- 1 x Generator
- 1 x Bolts & Nuts set
- 1 x Main shaft and arms
- 1 x MPPT Controller
- 1 x DN25 Flange

Note: The wind turbine pole (mast) is not included. Please prepare a 6-10 meter mast according to the DN25 flange dimensions, or contact your supplier for assistance.

Package Including:

3 * blades ,

1 * generator and 1 * bolts &nuts.

1 * main shaft and arms

1 * MPPT controller.

1 * DN25 flange

(Wind turbine pole is **not included**, please prepare a 6-10m mast for this wind turbine according DN25 flange dimensions, Or Contact us to order it for you)

Image: Visual representation of the package contents, including blades, generator, bolts, main shaft, MPPT controller, and DN25 flange.

4. SPECIFICATIONS

Parameter	Value
Rated Power	1000W
Rated Voltage	48V
Rated Wind Speed	13 m/s

Parameter	Value
Start-up Wind Speed	1.4 m/s
Survival Wind Speed	40 m/s
Wind Wheel Diameter	31.5 inches
Blades Length	51.2 inches
Top Net Weight	61.7 lbs
Generator Type	3-phase permanent magnet synchronous generator
Blades Material	Aluminum alloy
Shell Material	Aluminum alloy
Permanent Magnet Material	Rare Earth NdFeB
Working Temperature	-40 to 80°C
Service Life	More than 20 years

Specification:

Rated Power: 1000W

Rated Voltage: 48V

Rated Wind Speed: 13 m/s

Start-up Wind Speed: 1.4 m/s

Survival Wind Speed: 40 m/s

Wind Wheel Diameter: 31.5 inches

Blades Length: 51.2 inches

Top Net Weight: 61.7 lbs

Generator: 3-phase permanent magnet synchronous generator

Blades Material: Aluminum alloy

Shell Material: Aluminum alloy

Permanent Magnet Material: Rare Earth NdFeB

Working Temperature: -40 to 80° C

Service Life: More than 20 years



Image: A visual summary of the wind turbine's technical specifications.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your wind turbine. It is recommended to have professional assistance for installation.

5.1 Site Selection

Choose a location with consistent and unobstructed wind flow. Avoid areas with significant obstacles like tall buildings or trees that could create turbulence or block wind. The mast height should be sufficient to clear

surrounding obstacles.

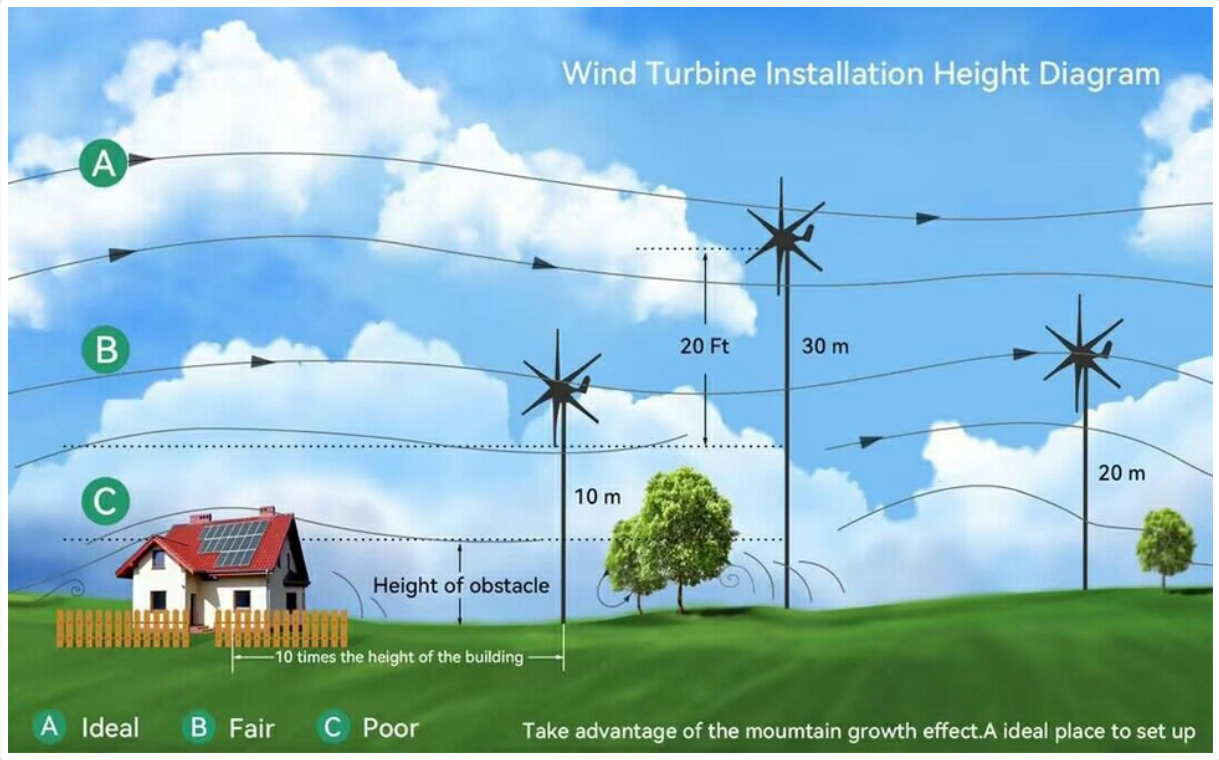


Image: Wind Turbine Installation Height Diagram, showing how height and proximity to obstacles affect wind flow (Ideal, Fair, Poor).

5.2 Mast Preparation

Prepare a sturdy mast (not included) with a DN25 flange for mounting. Ensure the mast is securely anchored to the ground according to local building codes and engineering standards.



Image: DN25 Flange Diagram, detailing dimensions for mast compatibility.

5.3 Turbine Assembly

1. Attach the main shaft and arms to the generator hub using the provided bolts and nuts.
2. Carefully mount the three blades onto the arms, ensuring they are securely fastened.
3. Connect the assembled turbine to the DN25 flange on the prepared mast.

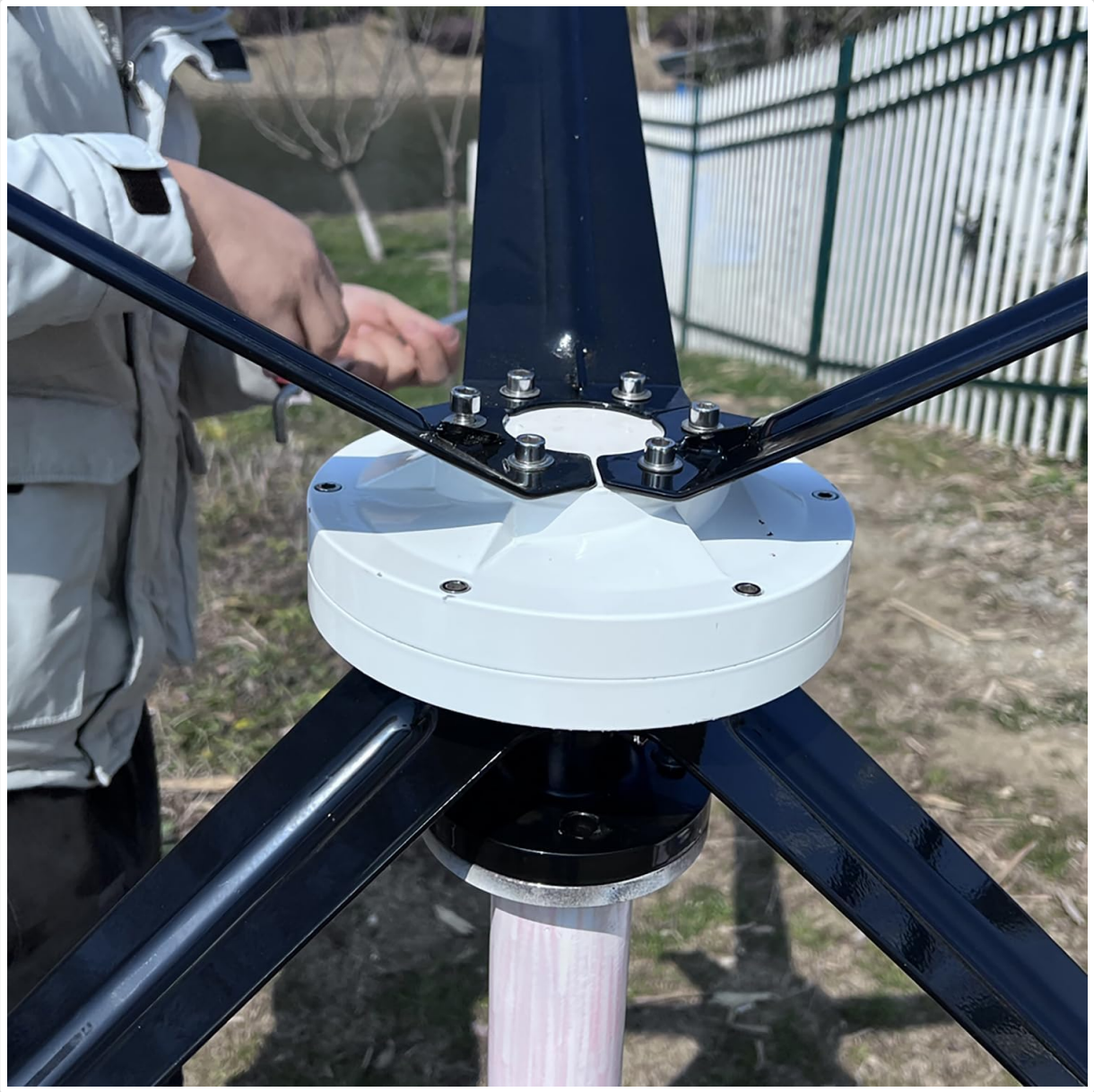


Image: Close-up of the turbine hub, showing the secure attachment points for the blades.

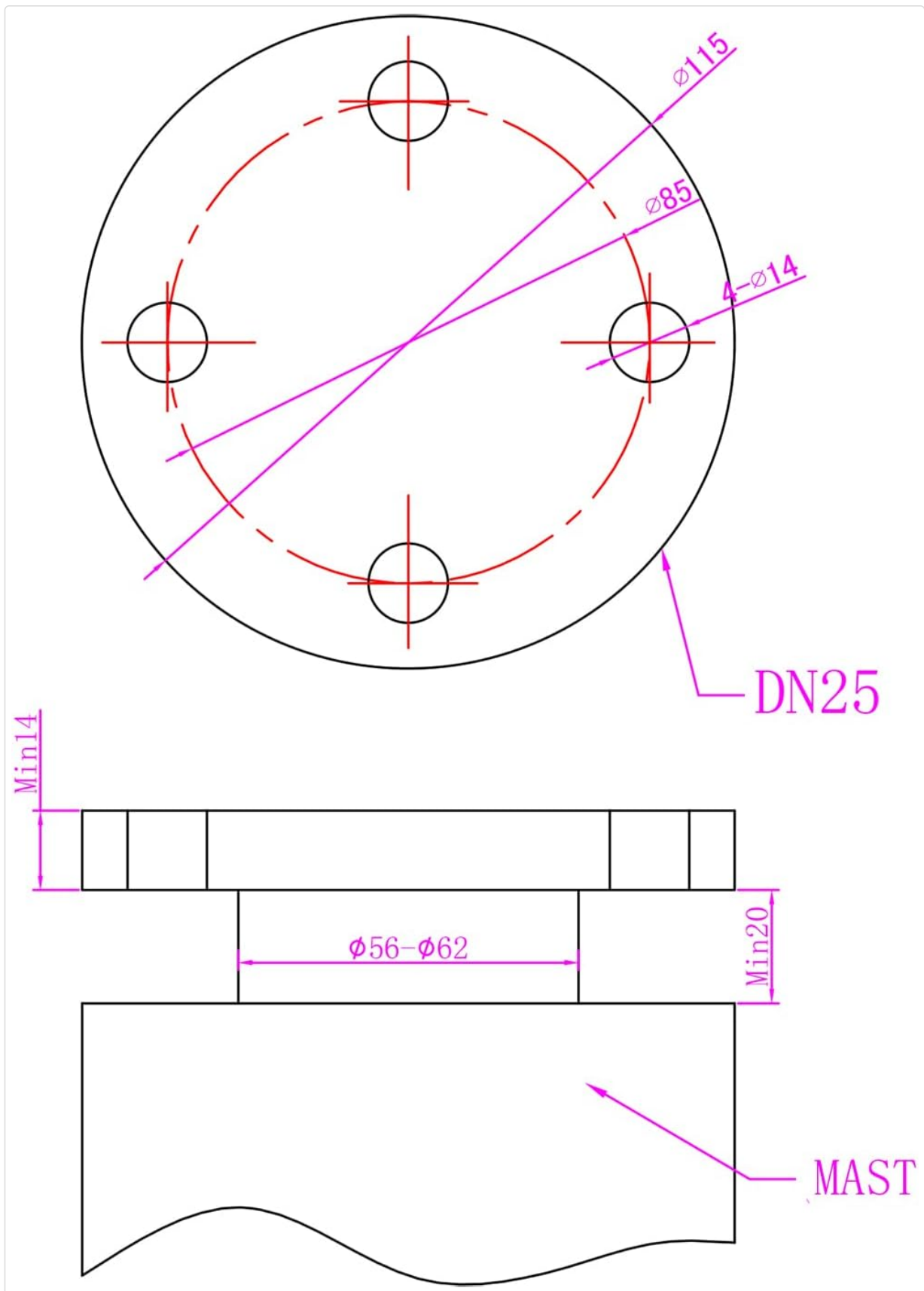


Image: Two people working together to assemble the wind turbine, demonstrating the installation process.

5.4 Electrical Connections

The wind turbine is designed for off-grid systems and requires connection to an MPPT charge controller, a storage battery, and an inverter for AC loads. Follow the wiring diagram carefully.

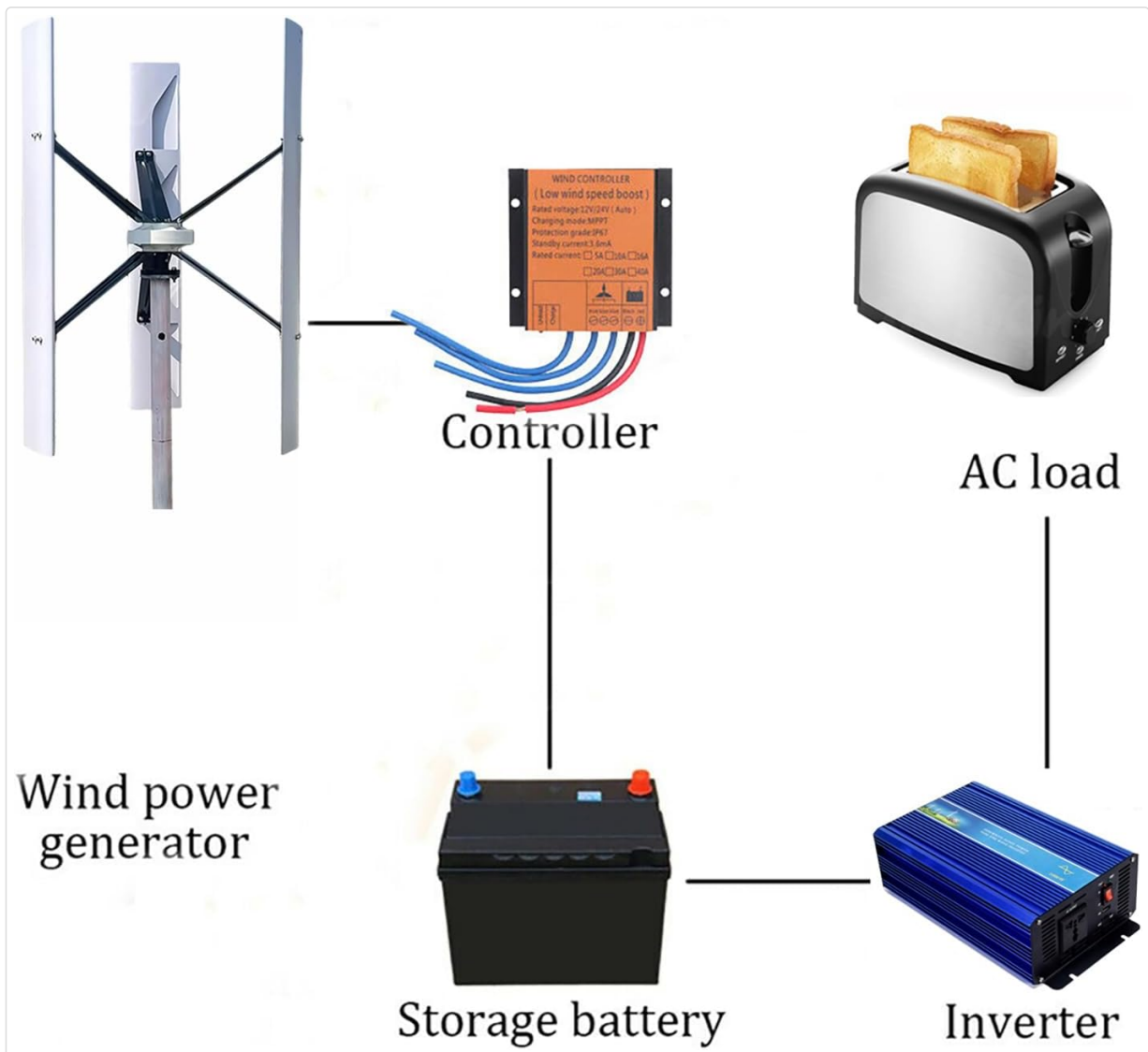


Image: System Diagram illustrating the electrical connections from the wind generator to the MPPT controller, storage battery, inverter, and finally to an AC load.

4. Connect the three-phase output wires from the wind generator to the input terminals of the MPPT charge controller.
5. Connect the MPPT charge controller to the 48V storage battery bank. Ensure correct polarity.
6. Connect the inverter to the storage battery bank.
7. Connect your AC loads to the output of the inverter.

IMPORTANT: Ensure all connections are tight and insulated to prevent short circuits and electrical hazards. Consult a qualified electrician if you are unsure about any wiring steps.

6. OPERATING INSTRUCTIONS

Once properly installed and connected, the FLTXNY POWER wind turbine operates automatically. The MPPT (Maximum Power Point Tracking) controller optimizes power output from the turbine to efficiently charge the 48V battery bank.

- The turbine will begin to rotate and generate power when the wind speed reaches the start-up wind speed of 1.4 m/s.
- The MPPT controller continuously adjusts the load to extract maximum power from the wind, even during varying wind conditions.
- The controller also protects the battery from overcharging and the turbine from over-speeding in high

winds.

- Monitor the charge controller display (if applicable) for system status, battery voltage, and charging current.
- The inverter converts the DC power from the battery bank into usable AC power for your household or farm appliances.



Image: An installed vertical axis wind turbine operating in an outdoor environment.

7. MAINTENANCE

Regular maintenance ensures the long-term reliability and performance of your wind turbine.

- **Monthly:** Visually inspect the blades for any cracks, damage, or debris accumulation. Clean the blades if necessary. Check all visible bolts and nuts for tightness.
- **Quarterly:** Inspect the mast and guy wires (if applicable) for corrosion, damage, or loosening. Ensure the mast is plumb and stable.
- **Annually:** Check electrical connections for corrosion or wear. Ensure the MPPT controller is functioning correctly. Inspect the generator for any unusual noises or vibrations.
- **After Storms:** Perform a thorough inspection of the entire system after severe weather events.

CAUTION: Always shut down the turbine and disconnect power before performing any maintenance or inspection. Use appropriate safety gear.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your wind turbine system.

Problem	Possible Cause	Solution
No power output	Low wind speed Loose electrical connections Controller fault Damaged generator	Check wind conditions Inspect and tighten all wiring Check controller display for error codes; consult manual or support Contact support for inspection/repair
Turbine not rotating	Insufficient wind Brake engaged (if applicable) Bearing issue Obstruction	Wait for higher wind speeds Ensure brake is disengaged Inspect for resistance; contact support Remove any debris or obstructions
Unusual noise or vibration	Loose components Damaged blades Bearing wear	Inspect and tighten all bolts Check blades for damage; replace if necessary Contact support for inspection/repair
Battery not charging	Controller fault Battery issues Incorrect wiring	Check controller status Test battery voltage and health Verify all connections according to diagram

9. WARRANTY & SUPPORT

FLTXNY POWER products are manufactured to high-quality standards. For specific warranty details, please refer to the warranty card included with your product or contact your point of purchase. Keep your purchase receipt as proof of purchase.

For technical support, troubleshooting assistance, or spare parts, please contact FLTXNY POWER customer service. Provide your product model number and a detailed description of the issue when contacting support.

Contact Information: (Please refer to your product packaging or official website for the most current contact details.)