Atlas

Vertical Axis Wind Turbine

Atlas

SYSTEM COMPONENTS

ATLAS

MY TESUP APP

DIFFERENT ATLAS BLADE SETS

INCLUDED IN THE BOX

High Wind Speed Blades — Optimum Performance Between 7 - 35 m/s

INCLUDED IN THE BOX

Moderate Wind Speed Blades — Optimum Performance Between 4 - 25 m/s

OPTIONAL

Low Wind Speed Blades — Optimum Performance Between 3 - 20 m/s

WIND TURBINE COMPONENTS

PARAMETER & DIMENSIONAL DETAILS

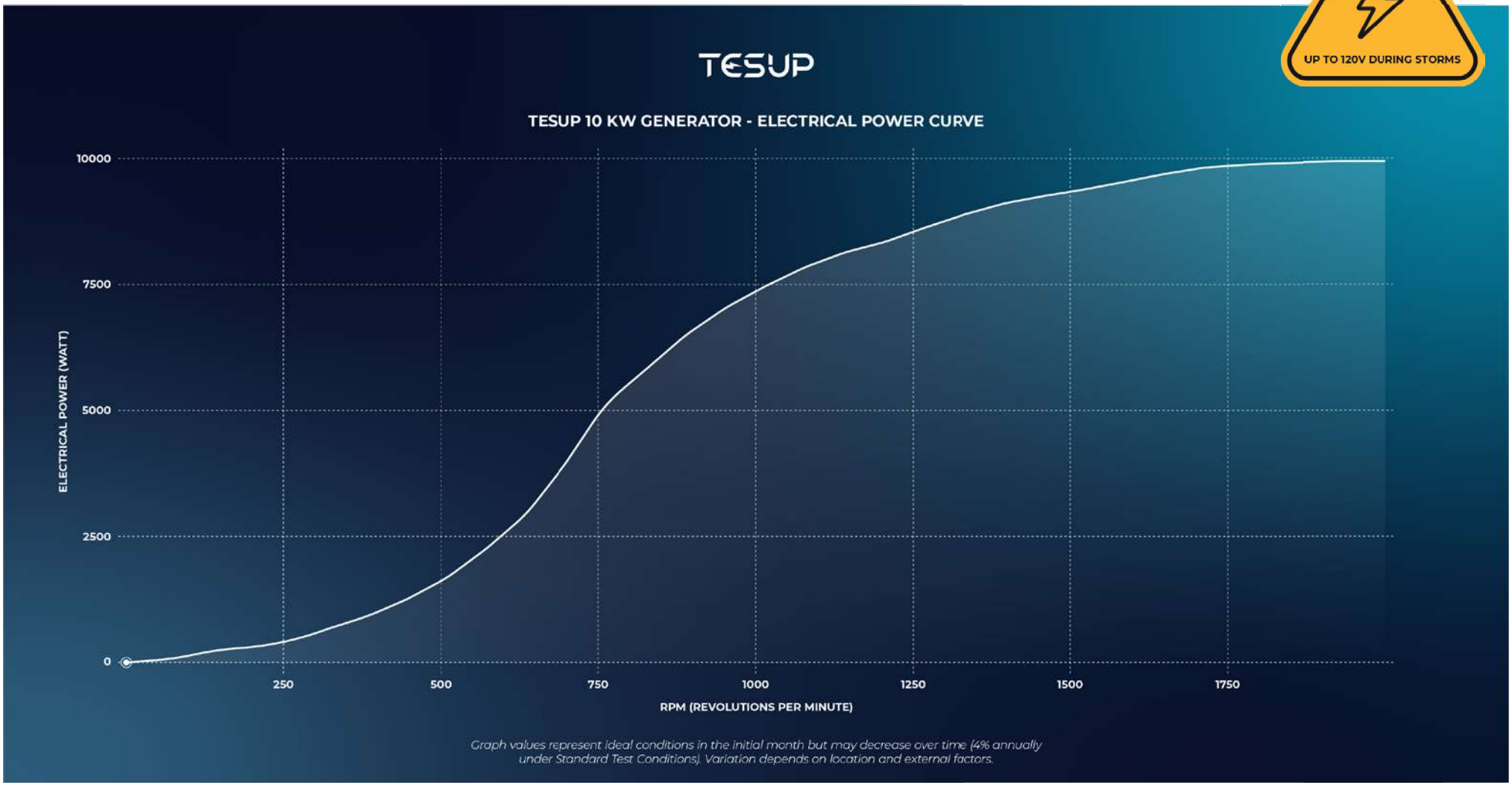
GENERATOR	
Material	Silisium sheetmetal
Type	Permanent magnet generator
Weight	20 kg (44 lbs)
Max. Power	10 kW
Max. RPM	2000
Output voltage	Voltage can be adjusted by the built-in Charge Controller
Direction of Rotation	Both clockwise and counterclockwise
Charge Controller	Built-in, digital and manual voltage adjusment
Test Standards	EN 61000-6-1 (electromagnetic compatibility – immunity) EN 61000-6-3 (electromagnetic compatibility – emissions)

HIGH WIND SPEED BLADES	
Material	Aluminium
No. of Blades	6
Diameter	460 mm (1.50 Feet)
Weight Per Rotor Blades	100 g (0.22 lbs)
Direction Of Rotation	Clockwise
Operational Wind Speed	7 to 35 m/s
Noise	40 dB

MODERATE WIND SPEED BLADES	
Material	Aluminium
No. of Blades	2
Diameter	400 mm (1.31 Feet)
Weight Per Rotor Blades	850 g (1.87 lbs)
Direction Of Rotation	Clockwise
Operational Wind Speed	4 to 25 m/s
Noise	35 dB

LOW WIND SPEED BLADES	
Material	Aluminium
No. of Blades	3
Diameter	1200 mm (3.93 Feet)
Weight Per Rotor Blades	750 g (1.65 lbs)
Direction Of Rotation	Clockwise
Operational Wind Speed	3 to 20 m/s
Noise	35 dB

POWER CURVE



IMPORTANT: Humidity, turbulence and the ion levels in the air can impact your turbine's performance.

GENERAL ARRANGEMENT AND DIMENSIONS

Assembling the Wind Turbine

MOUNTING DETAILS

The mounting surface must have a sufficient load-bearing capacity. The size and structure of the foundation depend on the ground/surface characteristics.

Click here to watch the ATLAS turbine assembly video.

Fastening packs available in your package and you will be using for the mounting base assembly:

1. Carefully open the packaging, taking care not to damage any of the components. After verifying the shipment for completeness, carefully remove all components from the box.

2. Fix the mounting base to the turbine's final location.

QUICK TIP: It is recommended to consult with a qualified structural engineer for advice on determining the optimal mounting surface.

WARNING: The mounting base of the wind turbine must be fixed to the mounting surface and checked that it is fully stable, before moving on to the next steps with wind turbine installation.

3. Fix the turbine body to the turbine's mounting base.

4. Insert the shaft on the rotor shaft (The double holes of the shaft should be on the downside, and the single hole should be on the upside.).

WARNING: Before proceeding with the blade set installation, ensure that the mounting base is securely fixed to the mounting surface and thoroughly checked for stability.

[High wind speed blades assembly >>>]

[Moderate wind speed blades assembly >>>]

[Low wind speed blades assembly >>>]

ASSEMBLING THE HIGH WIND SPEED BLADES

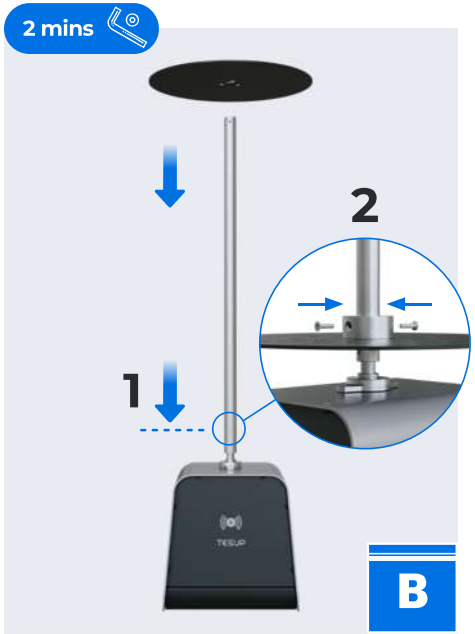
Click here to watch the ATLAS turbine assembly video.

Fastening packs available in your package and you will be using for this blade set's assembly:

1. Carefully open the packaging, taking care not to damage any of the components. After verifying the shipment for completeness, carefully remove all components from the box.

2. Fix the turbine body to the turbine's final location. Ensure that the mounting base is securely fixed to the mounting surface and thoroughly checked for stability. Click here to see the mounting details.

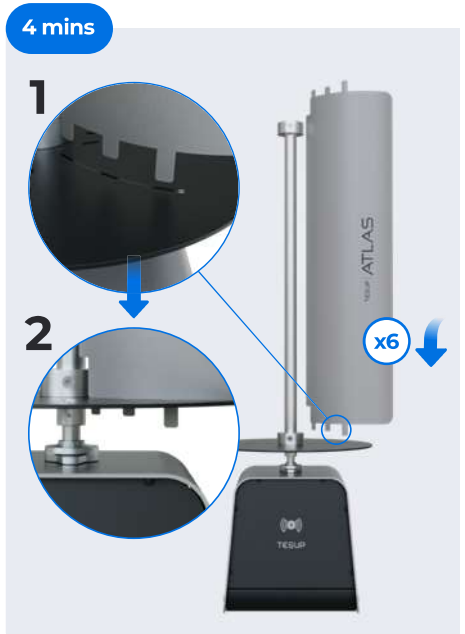
3. Mount the bottom flange to the shaft.



4. Mount the upper bracelet to the shaft.

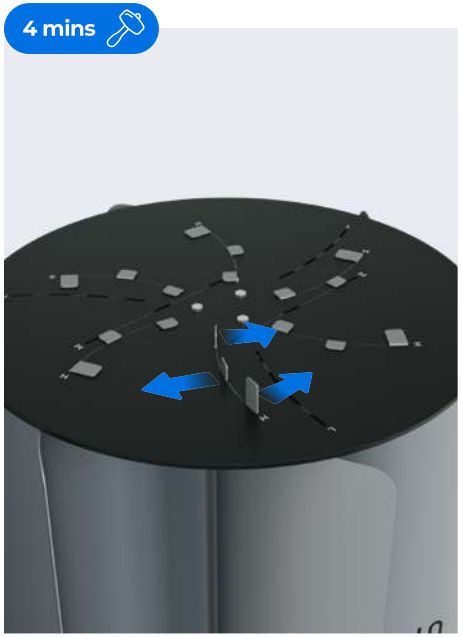
Make sure of two things: The holes on the collar must overlap the holes on the top flange where they will be connected. The holes on the upper flange and the lower flange must also be aligned with each other.

5. Insert the turbine blades into the designated housings on the bottom flange, which are marked with the letter "H" for this blade set.



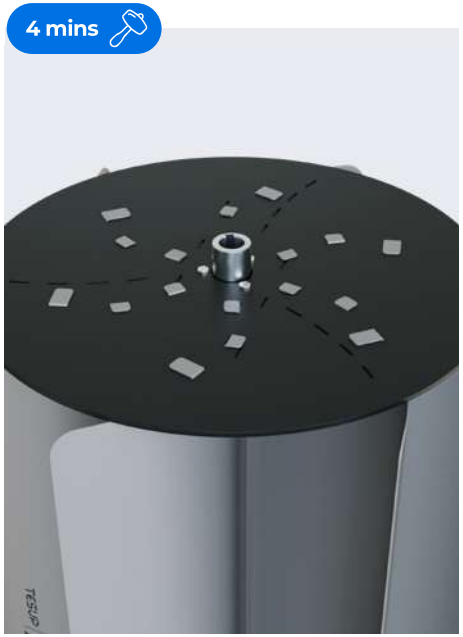
6. Insert the top flange and ensure that all the snaps pass through the housings marked with “H” on the top flange. Afterwards mount the top flange to the upper bracelet.

7. Carefully bend all the top snaps on the blades using a mallet.



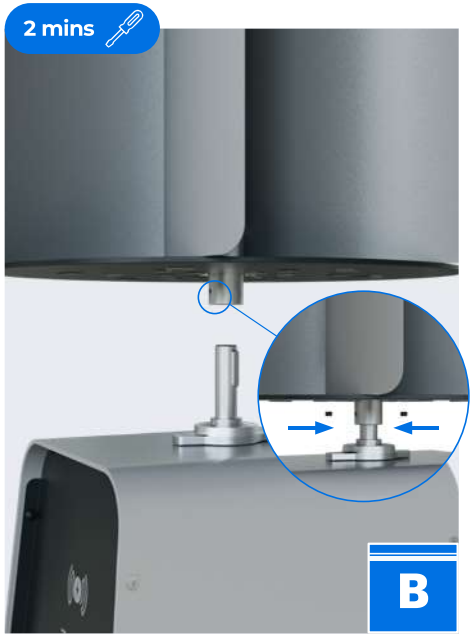
8. Turn the upper body upside down. Holding it from both the top and bottom flanges, carefully place the upper body on a flat surface with the top flange facing the floor.

9. Carefully bend all the bottom snaps on the blades using a mallet.



10. Flip the upper body, making sure the top flange is facing up again. Insert the shaft on the rotor shaft.

11. Fix the upper body to the base, using the grub screws provided.



12. If there is a battery in the system (in the case of off-grid connections), the maximum voltage value must be manually adjusted either through the “Manage My TESUP” section in the My TESUP App or using the rotary encoder on the body.

IMPORTANT: If a short circuit occurs, the turbine will activate its braking system, preventing the blades from turning.

WARNING: Incorrect or loose fastening can adversely affect the efficiency of your turbine, potentially causing damage and posing a risk of injury. Ensure that all fasteners are properly tightened.

ASSEMBLING THE MODERATE WIND SPEED BLADES

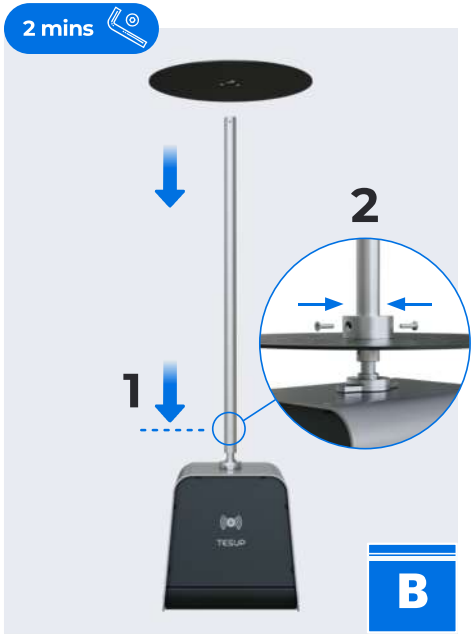
Click here to watch the ATLAS turbine assembly video.

Fastening packs available in your package and you will be using for this blade set's assembly:

1. Carefully open the packaging, taking care not to damage any of the components. After verifying the shipment for completeness, carefully remove all components from the box.

2. Fix the turbine body to the turbine's final location. Ensure that the mounting base is securely fixed to the mounting surface and thoroughly checked for stability. Click here to see the mounting details.

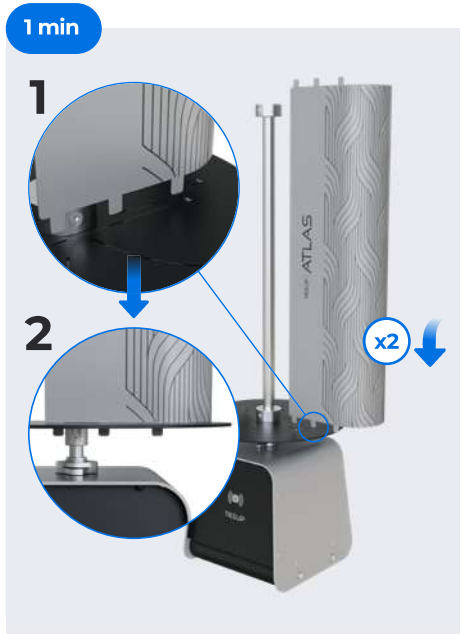
3. Mount the bottom flange to the shaft.



4. Mount the upper bracelet to the shaft.

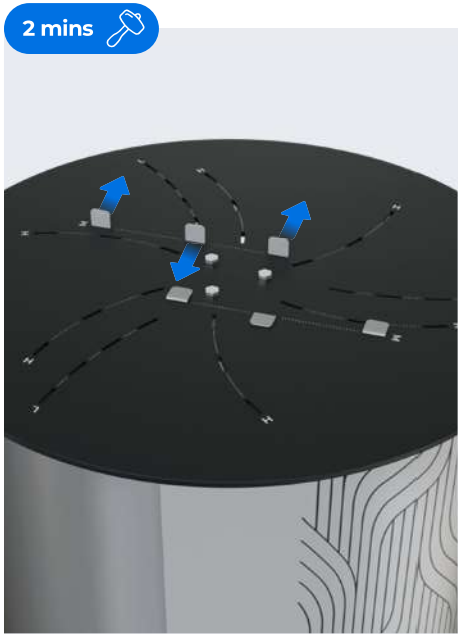
Make sure of two things: The holes on the bracelet must overlap the holes on the top flange where they will be connected. The holes on the upper flange and the lower flange must also be aligned with each other.

5. Insert the turbine blades into the designated housings on the bottom flange, which are marked with the letter "M" for this blade set.



6. Insert the top flange and ensure that all the snaps pass through the housings marked with “M” on the top flange. Afterwards mount the top flange to the upper bracelet.

7. Carefully bend all the top snaps on the blades using a mallet.

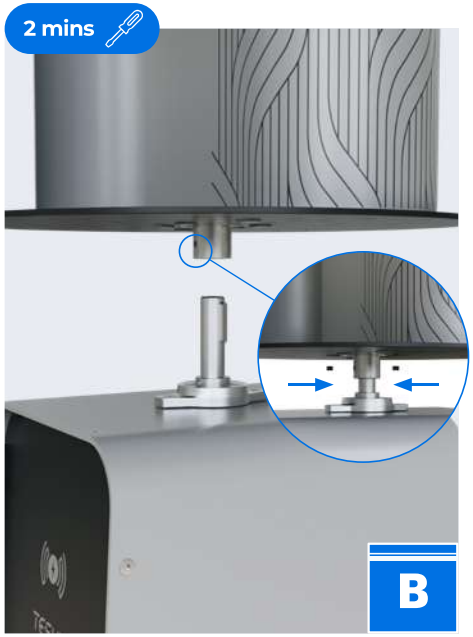


8. Turn the upper body upside down. Holding it from both the top and bottom flanges, carefully place the upper body on a flat surface with the top flange facing the floor.

9. Carefully bend all the bottom snaps on the blades using a mallet.

10. Flip the upper body, making sure the top flange is facing up again. Insert the shaft on the rotor shaft.

11. Fix the upper body to the base, using the grub screws provided.



12. If there is a battery in the system (in the case of off-grid connections), the maximum voltage value must be manually adjusted either through the “Manage My TESUP” section in the My TESUP App or using the rotary encoder on the body.

IMPORTANT: If a short circuit occurs, the turbine will activate its braking system, preventing the blades from turning.

WARNING: Incorrect or loose fastening can adversely affect the efficiency of your turbine, potentially causing damage and posing a risk of injury. Ensure that all fasteners are properly tightened.

ASSEMBLING THE LOW WIND SPEED BLADES

Click here to watch the ATLAS turbine assembly video.

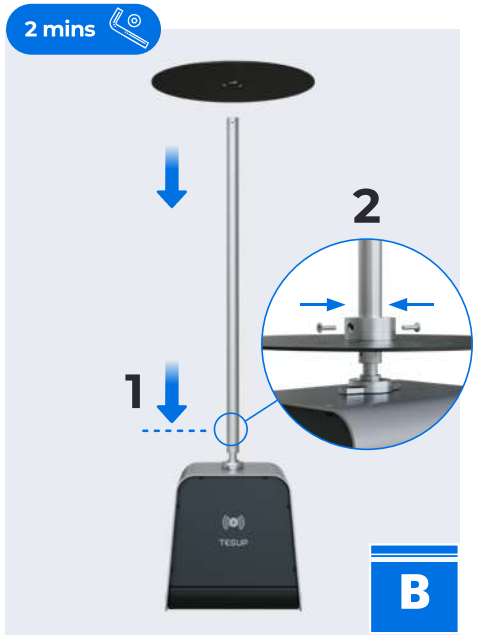
Fastening packs available in your package and you will be using for this blade set's assembly:

1. Carefully open the packaging, taking care not to damage any of the components. After verifying the shipment for completeness, carefully remove all components from the box.

2. Fix the turbine body to the turbine's final location. Ensure that the mounting base is securely fixed to the mounting surface and thoroughly checked for stability. Click here to see the mounting details.

3. Fix the shaft to the base using the grub screws provided.

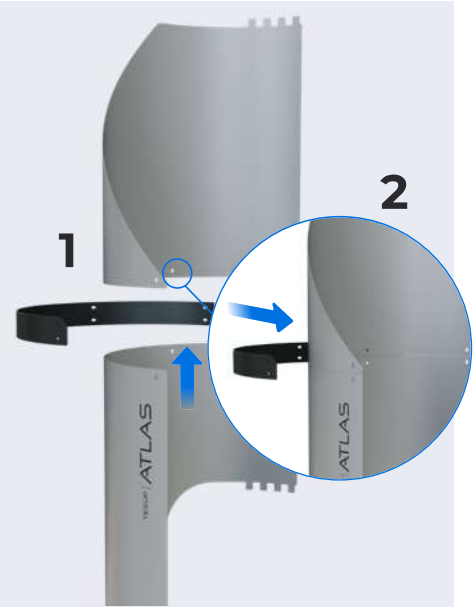
4. Mount the bottom flange to the shaft.



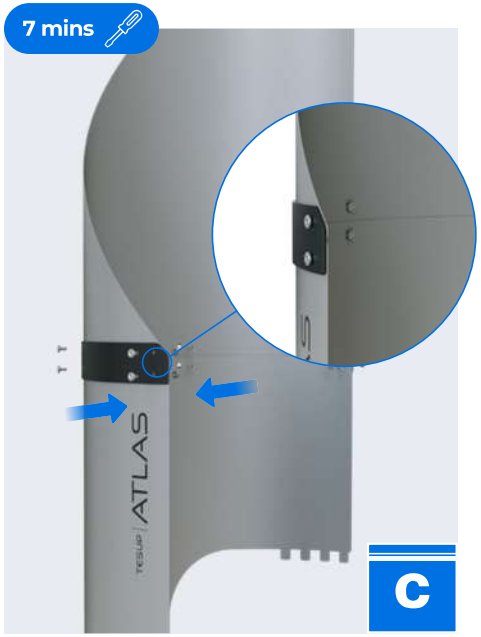
5. Mount the upper bracelet to the shaft.

Make sure of two things: The holes on the bracelet must overlap the holes on the top flange where they will be connected. The holes on the upper flange and the lower flange must also be aligned with each other.

6. Bring the upper and lower blades together and take the belt to connect them.



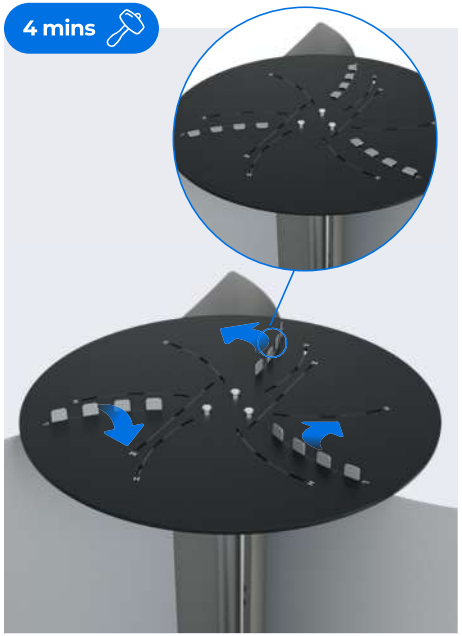
7. Mount the upper and lower blades together via the belt. The belt must be fixed to the blades from the outer surface. Repeat these three steps for the remaining blades.



8. Insert the turbine blades into the designated housings on the bottom flange, which are marked with the letter “L” for this blade set.

9. Insert the top flange and ensure that all the snaps pass through the housings marked with “L” on the top flange. Afterwards mount the top flange to the upper bracelet.

10. Carefully bend all the top snaps on the blades using a mallet.



11. Carefully bend all the bottom snaps on the blades using a mallet.

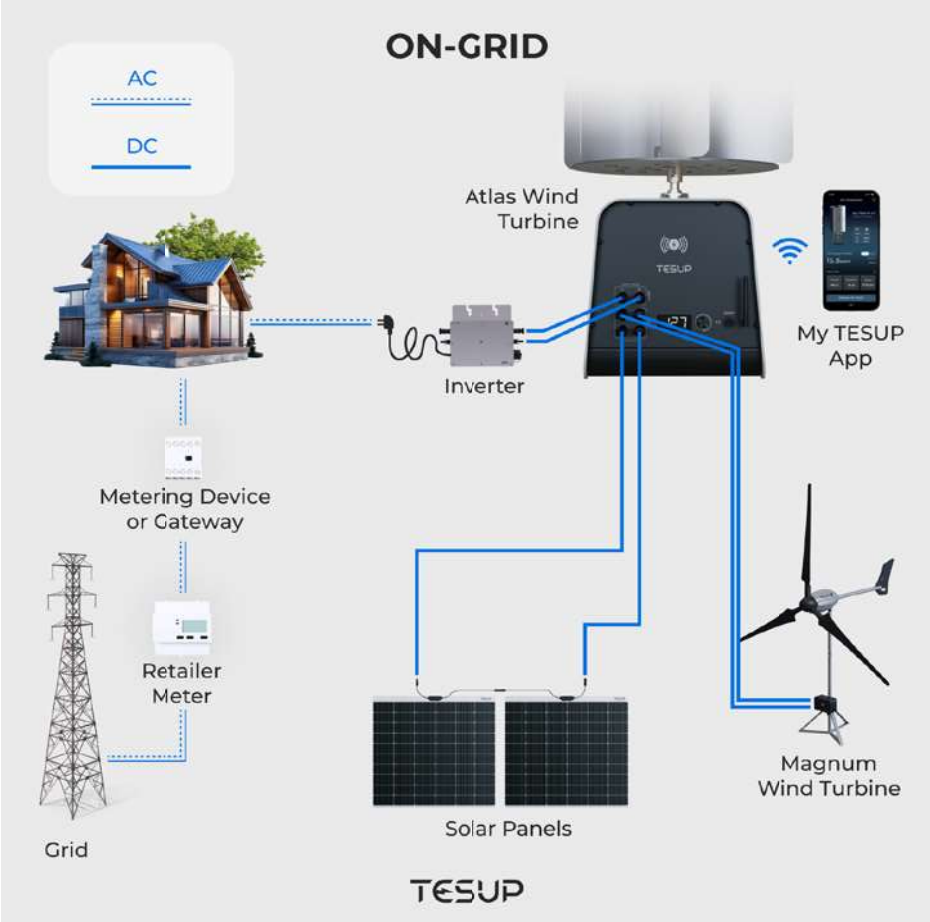
12. If there is a battery in the system (in the case of off-grid connections), the maximum voltage value must be manually adjusted either through the “Manage My TESUP” section in the My TESUP App or using the rotary encoder on the body.

IMPORTANT: If a short circuit occurs, the turbine will activate its braking system, preventing the blades from turning.

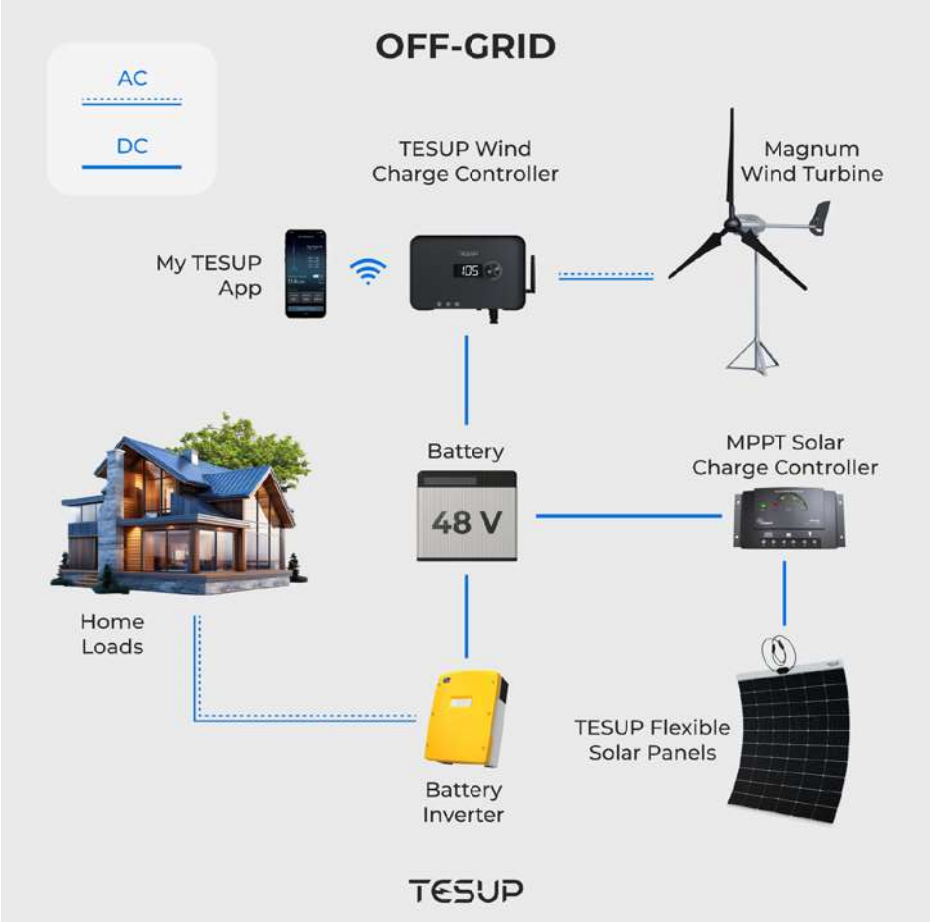
WARNING: Incorrect or loose fastening can adversely affect the efficiency of your turbine, potentially causing damage and posing a risk of injury. Ensure that all fasteners are properly tightened.

WIRING DIAGRAMS

1. On-Grid Systems: In this setup, the wind turbine is connected to the grid, allowing for the direct feeding of excess energy into the grid.



2. Off-Grid Systems: This configuration allows for the storage of excess energy generated by the system in batteries for later use.



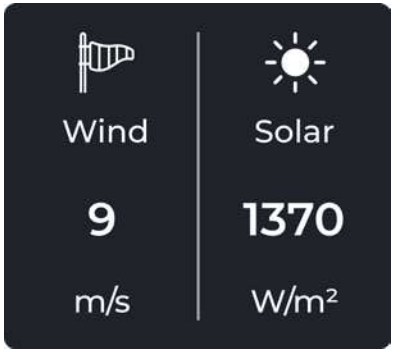
WARNING: To operate the system, the TESUP Wind Turbine and the charge controller must be installed outdoors in a dry location.

My TESUP App

With this app, you can effortlessly monitor the total energy output from all your products over time. By simply scanning the QR code located on your TESUP product, you can remotely control and monitor your TESUP product's operation.

IMPORTANT: Your TESUP product must be operational to supply energy to the system during app pairing.

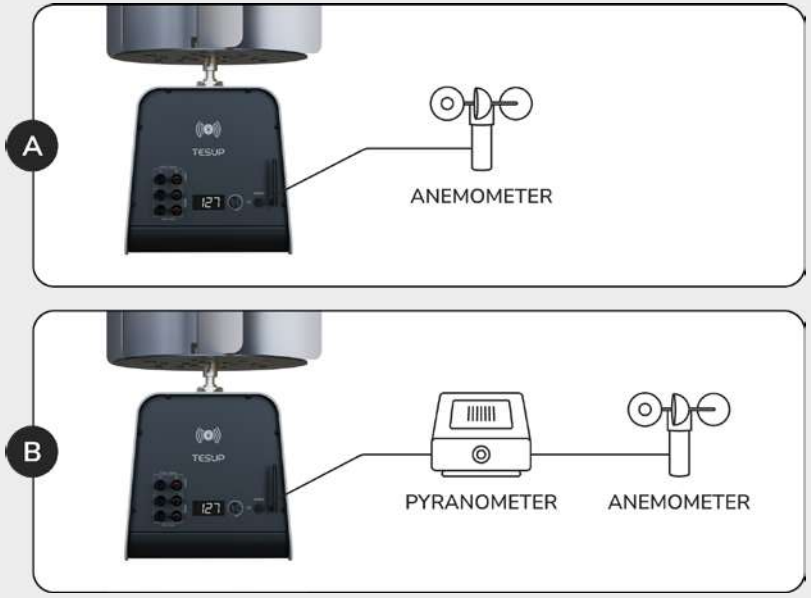
QUICK TIP: Your customer account on the TESUP website is not linked to your account in this application. You must first create a separate account.



Track Environmental Data

My TESUP allows you to have real-time access to vital environmental data that directly impacts the efficiency of your TESUP product, such as wind speed and solar irradiance.

IMPORTANT: To access wind data, you need an anemometer, which is a wind sensor. TESUP also offers an anemometer as an add-on product upon purchase. You can connect your anemometer to the sensor input on the back of the turbine body.

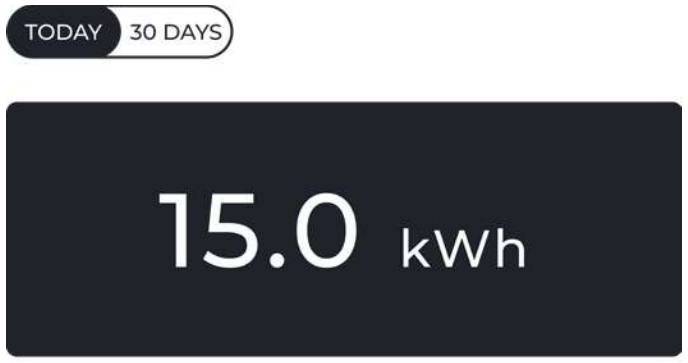


Real-time Energy Generation Monitoring

My TESUP provides you with up-to-the-minute data on how much energy your assigned products are generating. Whether you're at home, in the office, or on the go, you'll have instant access to the remarkable work being done by your product.

Total Energy Insight, All in One Place

Stay informed about the clean electricity you've generated today, throughout the month, and even access data on average voltage. Use this data to make informed decisions for enhancing your sustainable power generation.



Adjust Voltage

With this tool you can fine-tune your wind turbine's voltage output to match the specific needs of your energy consumption. By allowing you to make voltage adjustments within a predefined range, this feature ensures that your wind turbine operates at its most efficient, producing just the right amount of energy required.

Your wind turbine operates tirelessly to harness clean energy, but there may be times when you need to halt its operation swiftly and safely. The "Full Brake" function is your tool for precisely that purpose. It offers you the ability to bring your wind turbine to the safest minimum voltage ensuring safety, control, and peace of mind.