

AEOLUS 300 USER'S MANUAL

Excellent small wind turbine generator system



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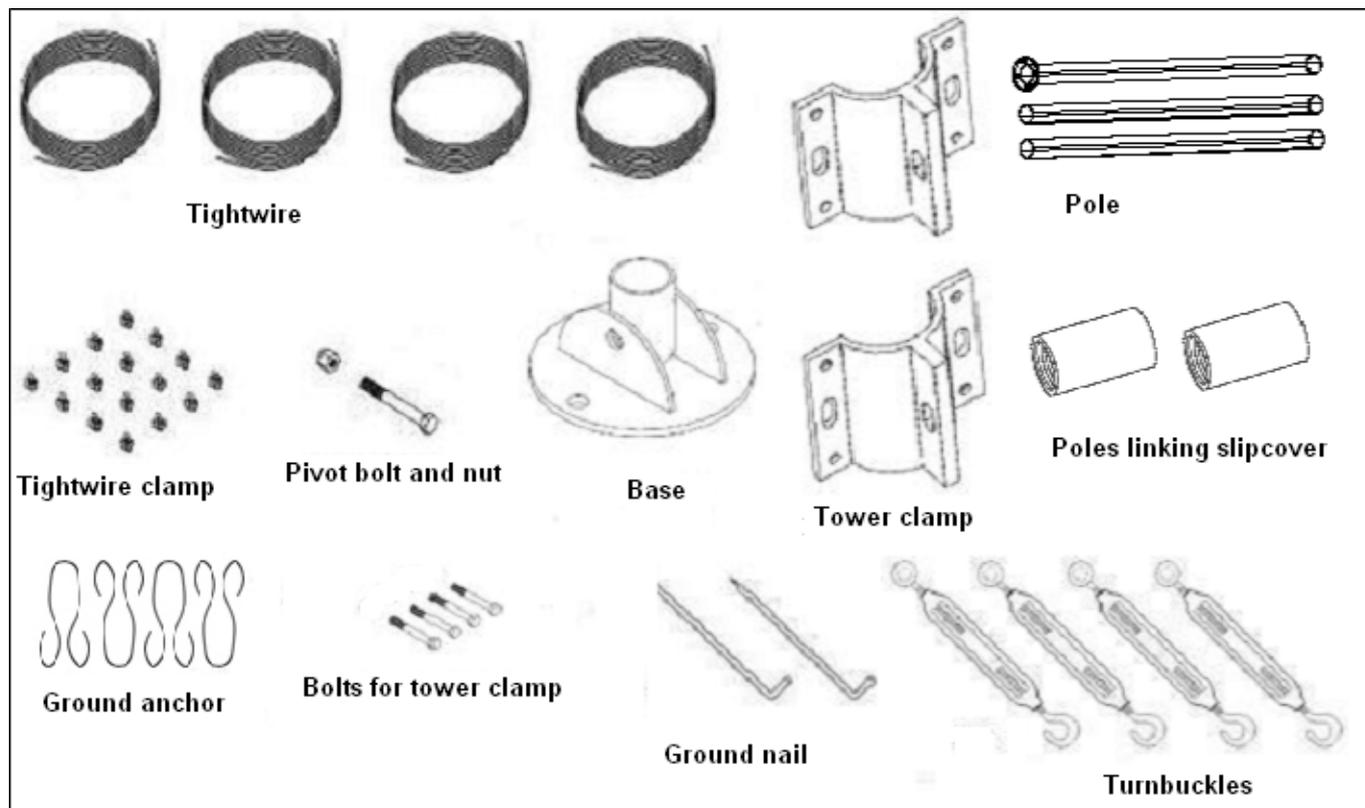
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1. Packaging Content

Name, Quantity and Function of Each Component

Generator	1 set (generate electricity and connect poles)
Blades	3 pieces (utilize wind power to drive generator)
Flange for blades	1 (connect generator and blades)
Dome	1set (lead air force)
Controller	1 set (commutate, electricize and download)
Fixing Parts	
6 Hexagonal bolts (M8×40)	4(connect generator and tower)
6 Hexagonal bolts (M8×25), nuts (M8)	9(fix the blades)
Bolts (M6×40)	1(fix the dome)
Bolts (M16),spacer (A17),cushion (A17)	1(fix blades and flange)
Pivots (φ12×168) , hatch	1 for each type(connect tailor and generator)
Bolts (M6×35) 、 nuts (M6)	3 for each type(connect tail board and tailor)

If user purchases the tower, following accessories will be included in packaging.



Tower Base	1
Tightwire	4
Tower Clamp	2

Bolts for tower clamp	4	
Tightwire Clamps	16	
Pivot Bolt and Nut	1 set	
Turnbuckles	4 sets	
Ground Anchor	4	
Ground Nail	2	
Poles (diameter: 48mm, length: 2m; not fully displaying)		3 pieces
Poles linking slipcover		2

If user purchases the inverter, following articles will be included.



Inverter

1

2. Technical standard and power curve

Model: FD2.5-300-LH

Rated power: 300W

Maximum power: 500W

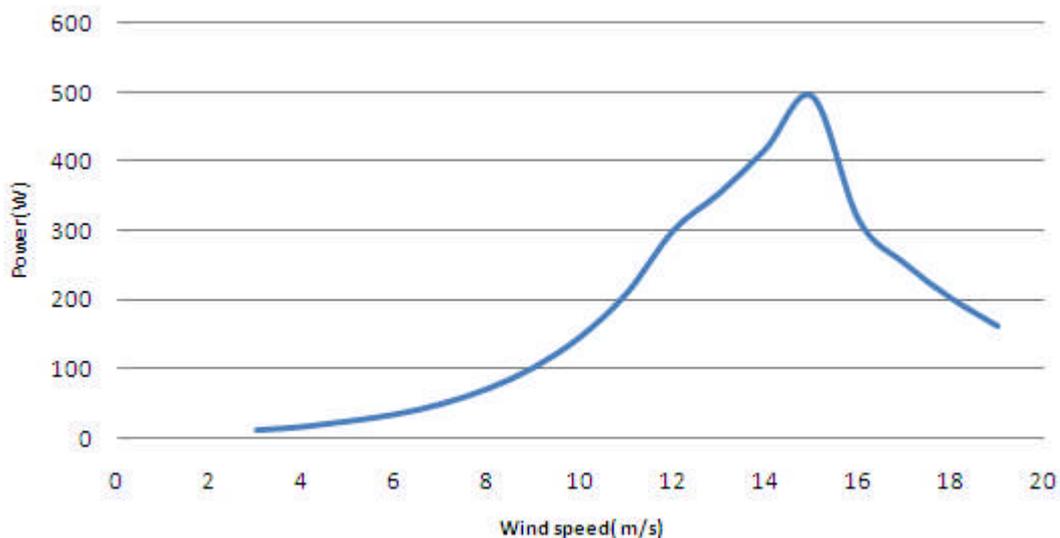
Rotor diameter: 1.5m

Start up wind speed: 2.5m/s

Rated wind speed: 12m/s

Rated voltage: 12v/24v/36v/48v

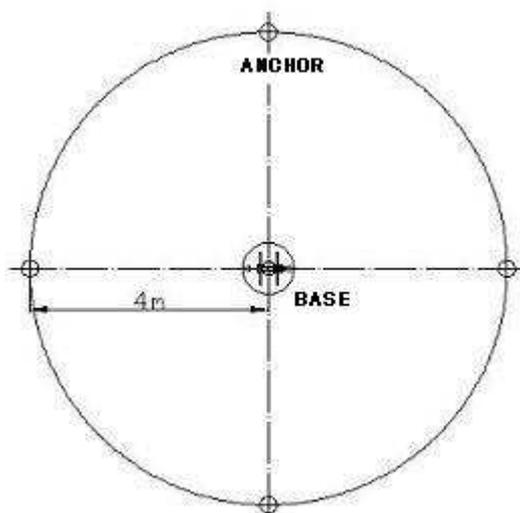
Power curve



3. Installation

Please choose a day for installation and wire connection without wind.

Step one. Choose space to lay the base and anchor as showed in following map.



Cautions: ①The hatch of basement should face to one anchor when place the basement.

②.If the distance is rather far from the batteries, we suggest use much thicker standard cable wires.

Step two. Use the bolts and nuts for base to fix base on ground. And the anchor inserted in the earth or fixed on the concrete basement. (Depth=500mm, diameter=400mm)

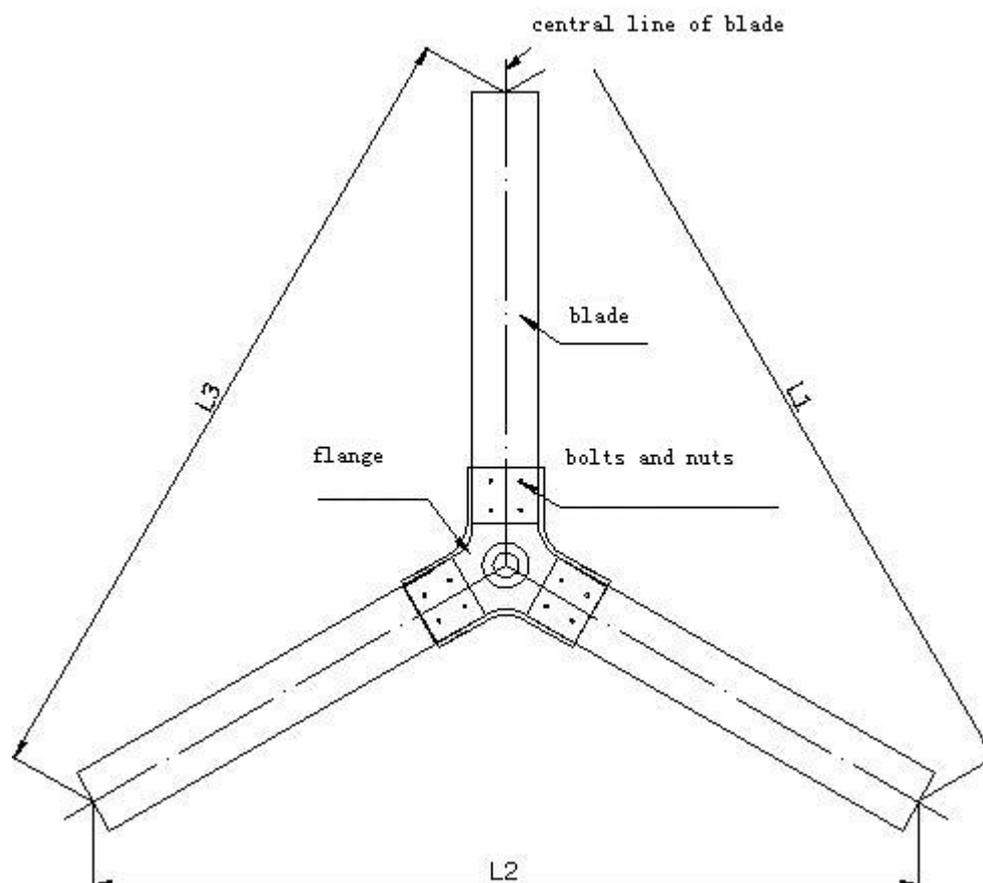
Note: If it is loose ground or sandy place, we strongly suggest build a concrete basement.

Step three. Connect three poles together to become a tower. Put the foot of tower into the pipe of tower

base, and the other head on a sawbuck or other wood stuff (height=700mm). Install the tower clamp onto tower (About 1.5m from the top), Tightening bolts. Pull the cable from the hole in tower base into the tower and elicit it on the top, then connect it with generator's output wire, attention to the anode, cathode and ground wire respectively. Cover the junction of wire with insulating tape in case of short circuit.

Step four. Put the flange on the generator face to the hole of the upper pole, linked them with bolts and nuts.

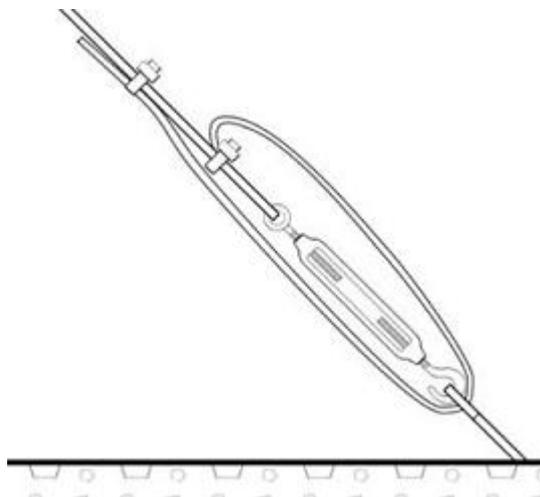
Step five. Lay the blade flange and blades on the ground, then install the blades on the flange with the windward side upward, also keep the blades' balance according to the graph below. When tighten the pivots, please using the wrench with the stated force $15 \pm 1\text{Nm}$.



Step six. Install the board on the tail girdle, then pull out the pivot axis of the generator, make the pivot hole of tail face to the one of generator body, next insert the pivot axis, get the pivot hatch through pivot axis and open it.

Step seven. Set the assembled blades and flange on the generator shaft, make sure the installation is proper and correct, or the flange may be slip when rotate. Then install the flange of blades and fix the spacer, cushion and nuts. Also, install the dome to the generator axis and tighten the pivots.

Step eight .Put four tightwires' ends into the waist holes of tower clamps and lock them by tightwire clamps respectively. Connect three of tightwires' other ends to anchors, except the one to the opposite anchor of generator. One person pulls the tower up, another one pull the free tightwire back, till erect the tower. Then connect the free tightwire to the anchor. The below photo show you how to lock tightwire.



Step nine. Adjust turnbuckles. A little loose tightwire is safer than a tight one.

5. Laying the batteries and inverter

The battery must be placed in a drying and ventilated room where temperature is constant. Calculate the battery's total number of parallel and serial, and then design the wooden stand for battery and inverter.

Series will be battery, the battery first one then the second battery cathode electrode. Followed by accumulation of the required voltage wiring all showed the first part of grease or other corrosion resistant materials.

Notes: proposed battery configuration for this generator is two 150AH batteries, and the voltage of the battery series and the output of the generator should be equal.

6. Electrical Wiring

Please choose a day for installation and wire connection without wind.

1. Choose wire

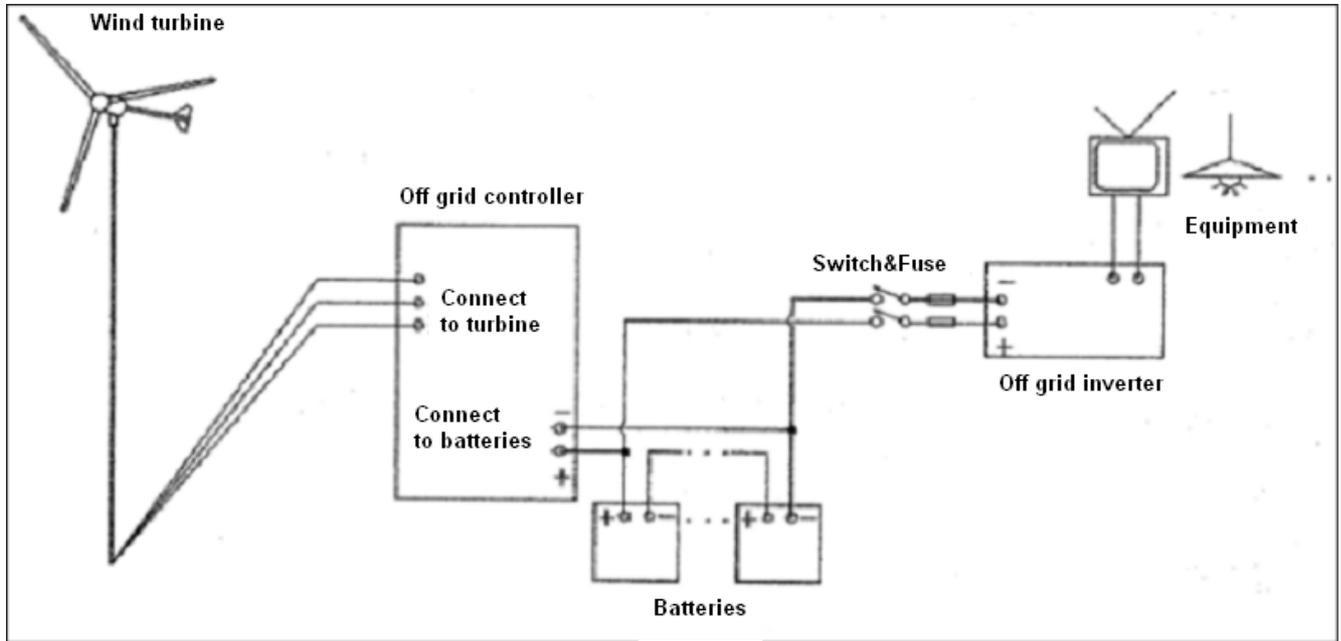
Distance between generator and batteries (m)	<50	50-100	100-150	150-200	200-300
Diameter of wire (mm)	4	6	10	16	20

2. Electrical wiring maps of off-grid

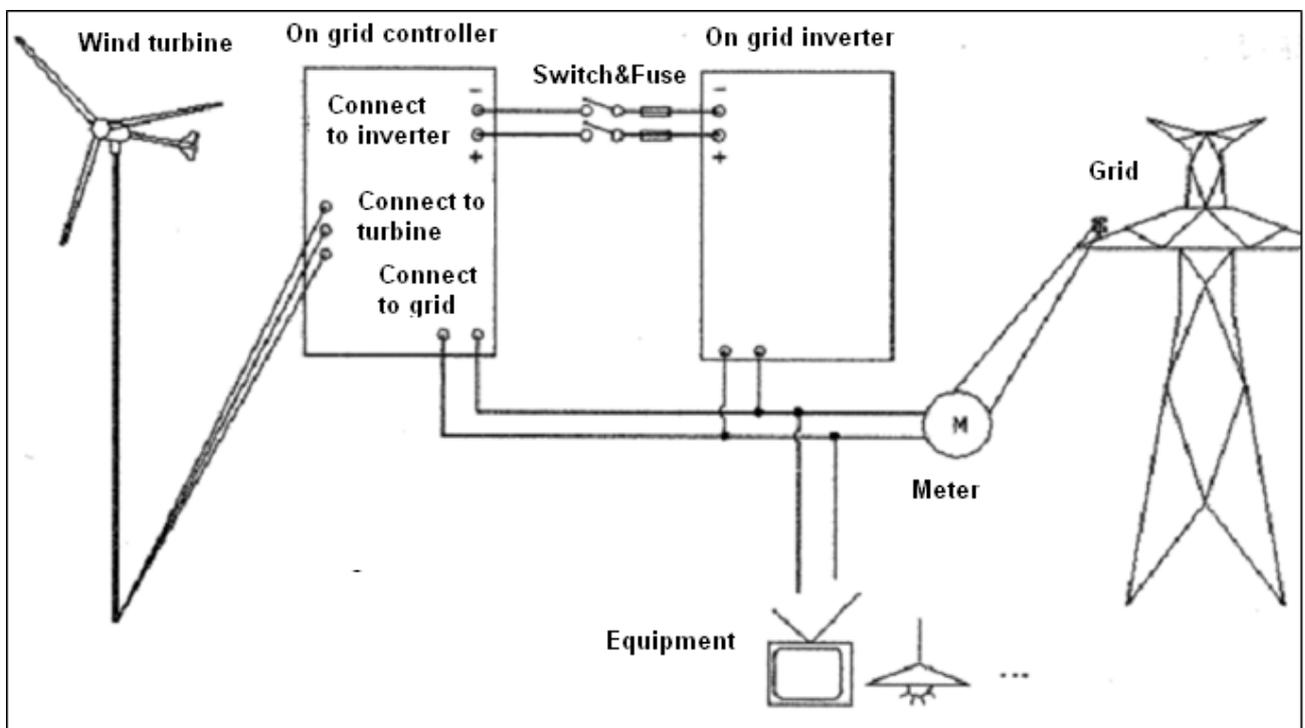
The ground wire from generator must be connected to earth. The anode wire from generator must connect to batteries' anode and inverter's anode. The cathode wire from generator must connect to

batteries' cathode and inverter's cathode. Must make sure that the generator's output voltage and batteries' voltage and inverter's input voltage is equal, and do not connect an anode to a cathode. A wrong wiring maybe burn the generator or batteries or inverter.

When connect with wires, firstly link battery with controller, then link battery with inverter (notice to put down the switch of inverter), next, connect the output of generator to input end of the controller.



3. Electrical wiring maps of on-grid



Notes: ① whether the generator can be incorporated into the power grid rests on local laws and regulations.

② On-grid inverter needs to be purchased extraly.

7. Maintenance

Wind turbine may be operated under extremely harsh environment, or meet various complicated weather. Therefore, fix- date examination and maintenance are necessary in order to keep the system operate rightly.

Do the following check every three months?

1. Check the tight wire is too loose or too tight, and adjust them, in particular in initial stage of installation and post-gale.
2. Check whether or not the wire is damaged or loose. The joints are loose and rusted or not in order to secure electrical safety.
3. Maintain the batteries following the battery manual.
4. Before storm, it is better to lay down the tower for escaping from unpredictable loss

8. FAQs

- Why does not my electro-equipment work after connected to inverter?
 - Check the dump energy. If the energy is not enough, the system will not operate normally; if the energy is enough, please check the connecting wire between batteries and inverter is correct.
 - Why can not the batteries be charged?
 - Check whether or not the rotor is rolling, the generator has no output at too high or too low wind speed. If the rotor is normal, disconnect the generator's wire from batteries and controller (if there is an individual controller); check the output voltage of generator by a multi-meter. If the voltage is normal please check the batteries is ok, otherwise check the wire of generator.
 - Why does not the rotor roll at a normal wind speed?
 - If the output wire of generator is short, the rotor will not roll. Check the generator's wire after disconnected from batteries.
 - Could it is possible to increase the capability to enlarge the life span of battery?
 - If increasing the capability of suggested battery, it would cause the battery keep long in an undernourished condition, which would reduce the life span of the battery and result in waste.
 - What is the life span of the generator?
 - Under the normal condition, the life span of the generator is 15 years.
- If there are problems existed still unsolved, please contact with our workers by phone or Email.

* The color and mark of photographs may be different from real objects.

* No notification if the manual modified.

* This product has one years warranty (no damage by man-made or force majeure)