# ZheJiang SenWei Wind Turbine CO., Ltd

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#### **Wind Turbine Generator**

New structure and molded covering of aluminum alloy endow body of AEOLUS 2000 with strength and reduce its weight, making it look more beautiful and strengthening reliability. Meanwhile, following characteristics are also included.

- 1. Strengthened fiber-glass design of tail;
- 2. Starting at low wind speed;
- 3. Extremely low operating noise;
- 4. Tail furling and over wind-speed guarding automatically
- 5. Directly driven generator with high Nd-Fe-B magnetic material.

Rated power: 2000W Max. power: 3000W Rotor diameter: 3.6m Start-up wind speed: 2m/s Rated wind speed: 9m/s Rated voltage: 48V

AEOLUS 2000 can supply about 400kwh per month under the condition: average wind speed is 12m/s per day and valid wind hours is 210h per month.

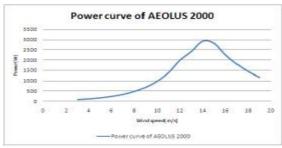




#### Addenda: The wind level table (only some parts)

wind level	Marine phenomena	Terrestrial phenomena	wind speed(m/s )
2	a small wave, fishing boat rocking	The faces of the people feel the wind, and leaves Microsoft ring for that flag and started floating, high grass and crops began rocking	1.6~3.3
6	White froth has been blown from the top of the waves, fishing boat reefs	Large tree branches sway, electrical wiring, deep voice, high grass and crops umbrella difficulties from time to time to rest on dumping	10.8~ 13.8

#### **Power curve**



### **Detail Picture**



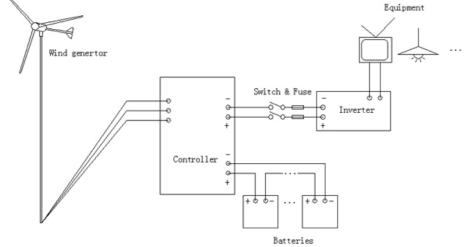
Notes : ① proposed battery configuration for this generators is four pieces of 12V200AH batteries.

(2) the input voltage of inverter should be equal value with the battery's series voltage.

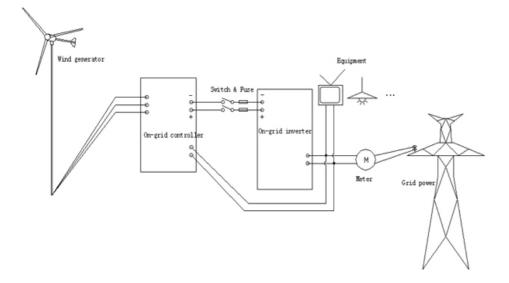
During the process of installing wind turbine generator, connecting electrical wiring is a very important step. If the connection is wrong or loose, there may be unforeseen problems later. We are providing the following electrical wiring plans for your reference. It is enough to have some electrical knowledge. Meanwhile, we also hope you to notice that this map does not display controller for the reason that it has been integrated into the generator. I believe this will reduce your workload and improve system stability. We offer two maps by reason that AEOLUS 1000 can be both used in the off-grid

# environment, and used in the off-grid environment.

# Electrical wiring map for off-grid



# Electrical wiring map for 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 extra.

NO	Name	Unit	Quantity	Elucidation
1	Electric motor	Set	1	Magnetic force motor
2	Hat of motor	Рс	1	
3	Steel	Рс	1	
4	Steel plate	Рс	1	Bolts,nuts,cushion,mat-ping (5sets)
5	Oar leaf	Set	1	3Slice
6	Oar leaf steel	Set	1	
7	Stalk	Рс	1	Fix the stalk
8	Control inverter	Set	1	Control inverter
9	Manual	сору	1	
10	Prop up the shelf	рс	1	
11	Electric wire	Рс	1	15meters long
12	Steel wire	Sets	4	
13	Steel wire clasp	Sets	8	
14	Steel pipe	Sets	1	3pcs
15	anchors	sets	4	4pcs Angle steel,4pc round bar

# wind turbine generator packing detailed list

Installation procedures

If the use of sub-tower wind generators will be installed on flat ground, please refer to the following steps:

#### Step 1: The choice installs the place

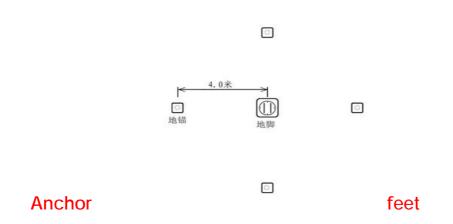
High wind generator should be erected as possible and away from obstructions as possible to get much greater speed. Also need to consider the quality of the installation site, try not to choose the soft sand, uneven pitch vulnerable to the impact of climate change in the venue. Choice of venue from the wind generator must also consider your battery to the motor in the distance, the shorter distance. used in transmission lines shorter, the energy transfer processes are therefore less if it has to have a longer distance. they will try to use some of the rough standard cables.

# Step 2: Tower, base and fixedly the layout of the anchor man( as follows diagram)

Layout of the base and anchors to pay attention to the following points :

1. Two borderland anchor line to line and parallel to the pin hole two feet.

2. Anchor attached to the base and tower height to be unanimous, the erection of tower, The fixed-wire tension may be too rigid or too lax, or even lead to the collapse of tower bending.



Step 3: Pouring base, to anchor, and the installation of tower base

 According to step on the layout of concrete pouring began digging pit, the center of the base of 1.6m Pit side long
8m.The equipment has superior depth. The four anchors Pit side long 0.8m.The equipment has superior depth of 1.0m.

 C25 concrete poured, the center placed four base anchor bolt, the same attention to the base hole. bolt to the base fixed in advance pouring cement good guests.

3. Four ring anchors placed toward the base of 60-80 degrees, four checks to the Central Application List anchored the distance between the center and base. four anchors basic level.

# Step 4: assembling tower and wind generator

1. First will be assembled and placed in the tower saw on the wooden stand.

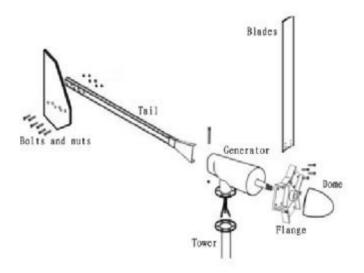
2. Large pivotal bolt through the tower base to be inserted under the tower base.

3. Will be pivotal large bolts were inserted on the base of the bolt-hole screw nut under the tower, put song shake loose.

4. Will pour into the wind generator and cables from the wear leads to the foot. Wire leads with electrical cables will be connected. Connection of electrical insulation tape used to wrap up tight, to prevent short-circuit tower.

5. Will wind turbine flange and pour flange bolts fixed.

6. BLADE bar and a tail assembly, in the light of the chart below.





1. Moreover there put into the top four wire through the end of the pole setting hole and caught the waist Central fixture with lock wire. In addition to the farthest response to a foreign wire anchor of the other three cables connecting to the other anchors but no lock Fans Rally to be erected after regulation.

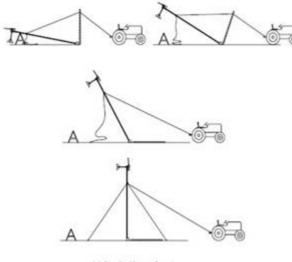
2. Cable put in the last one of the "pull up" at least 16 meters long wire connected to the wave of cable (himself / or chains Cable), the winch cable or pull one end connected machine.

3. This' pulls' perceptions or 2x5 wire and cable through the end of the ladder, which ladder play a supporting role in the boom.

4. Slowly drove a tractor, with the cable to the path of gradually tower is erected (see chart). Each tower rising to 15 degrees, to stop on both sides to observe the fixed-wire tension, to avoid imbalance.

5. Cable continued to pull back until completely vertical tower, the tower was before cable anchor on its own to wear and fixed.

6. Examine and adjust the various fixed-wire tension, a corner tower will curve around the tower is too lax will slosh around.Portland Bolt spent rotating through wire, a slight relaxation of tension wire larger than the much safer.



风机安装示意图

Fans installed maps

### Step 6: battery and inverter resettlement

The battery must be placed in a drying room temperature constant inside the buildings, placed around the battery must be spacious and ventilation. Good battery and determine the total number of parallel and serial, and then placed battery and inverter design of the wooden stand. Series up to battery, the first battery of battery cathode electrode then second, followed by accumulation of the required voltage. all wiring showed the first part of grease or other corrosion resistant materials.