

NIC- 350 WATT MANUAL

Excellent small wind turbine generator system



(original pic at our Jaipur Office)

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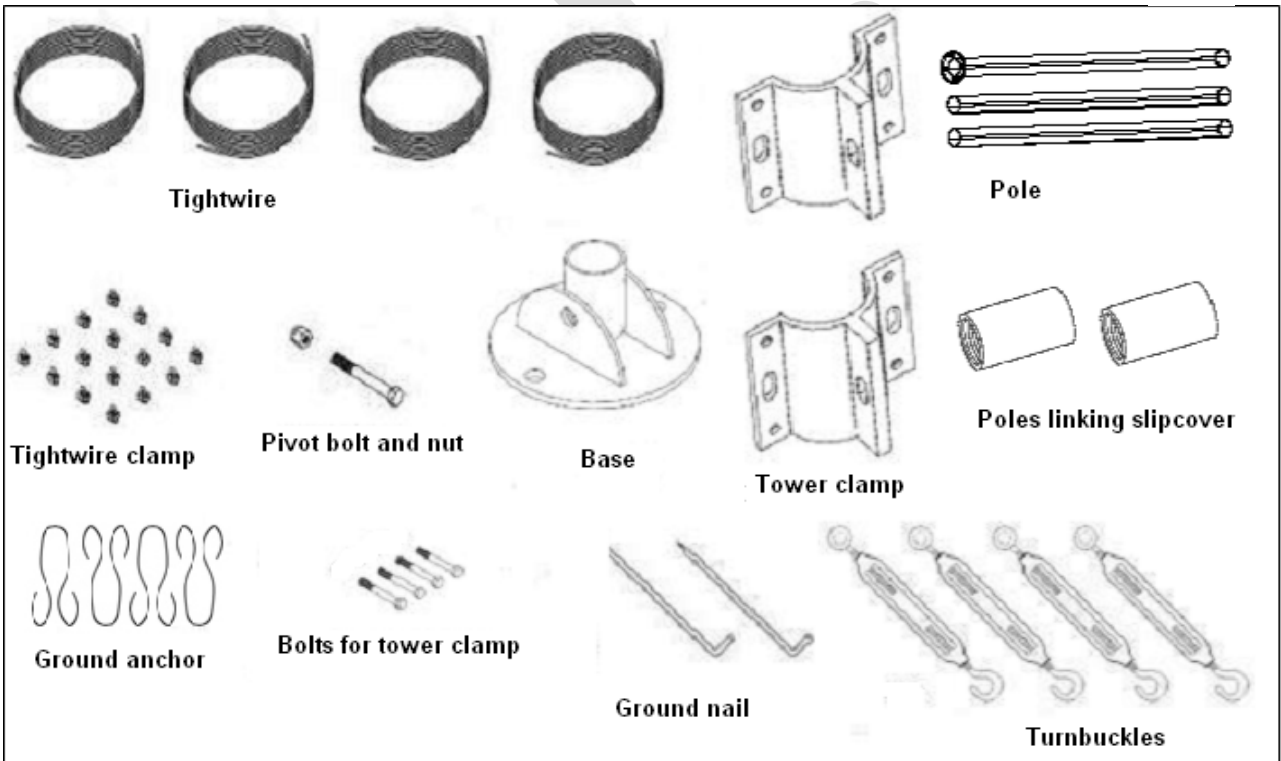


1. Packaging Content

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	1(lead air force)
Controller	1 (commutate, electricize and download)
Fixing Parts	
6 Hexagonal bolts (M8×40)	4(connect generator and tower)
6 Hexagonal bolts (M8×25), nuts (M8)	9 set (fix the blades)
Bolts (M6×40)	1(fix the dome)
Bolts (M16),spacer (A17),cushion (A17)	1set(fix blades and flange)
Pivots (φ12×168) , hatch	1 set (connect tailer and generator)
Bolts (M6×35) ,nuts (M6)	3 set (connect tail board and tailer)

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



Tower Base	1
Tightwire	4
Tower Clamp	2

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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

2. Technical standard and power curve

Model: NIC-300W

Rated power: 300W

Maximum power: 500W

Rotor diameter: 1.5m

Start up wind speed: .2.5m/s

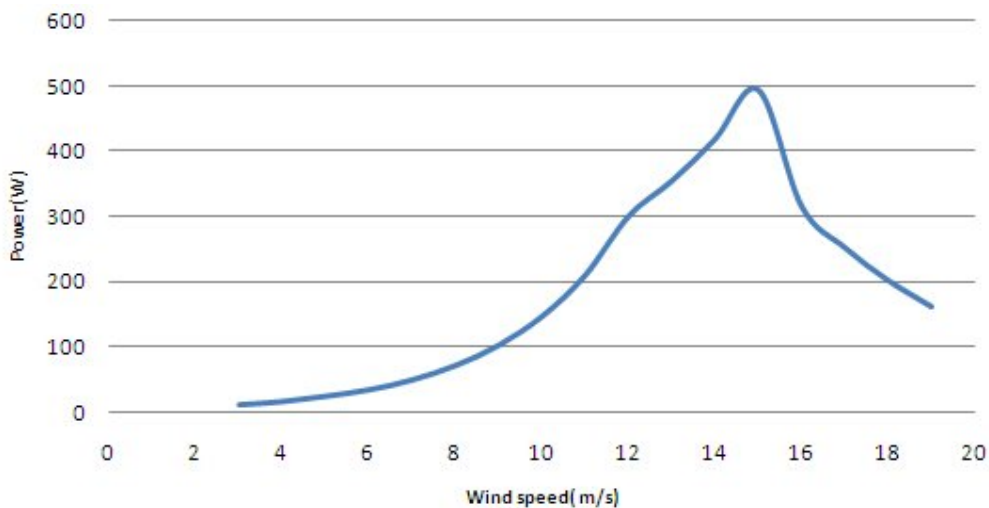
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Rated wind speed: 12m/s

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

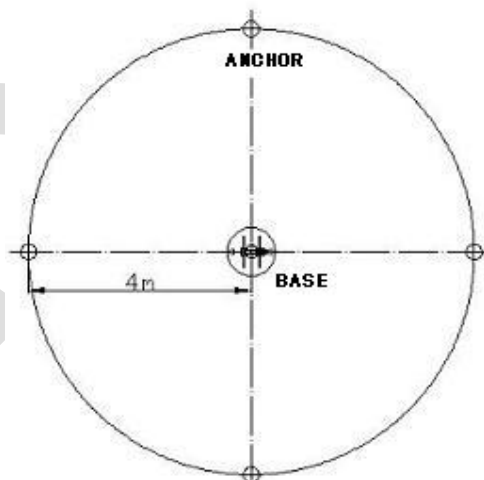
Power curve



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

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

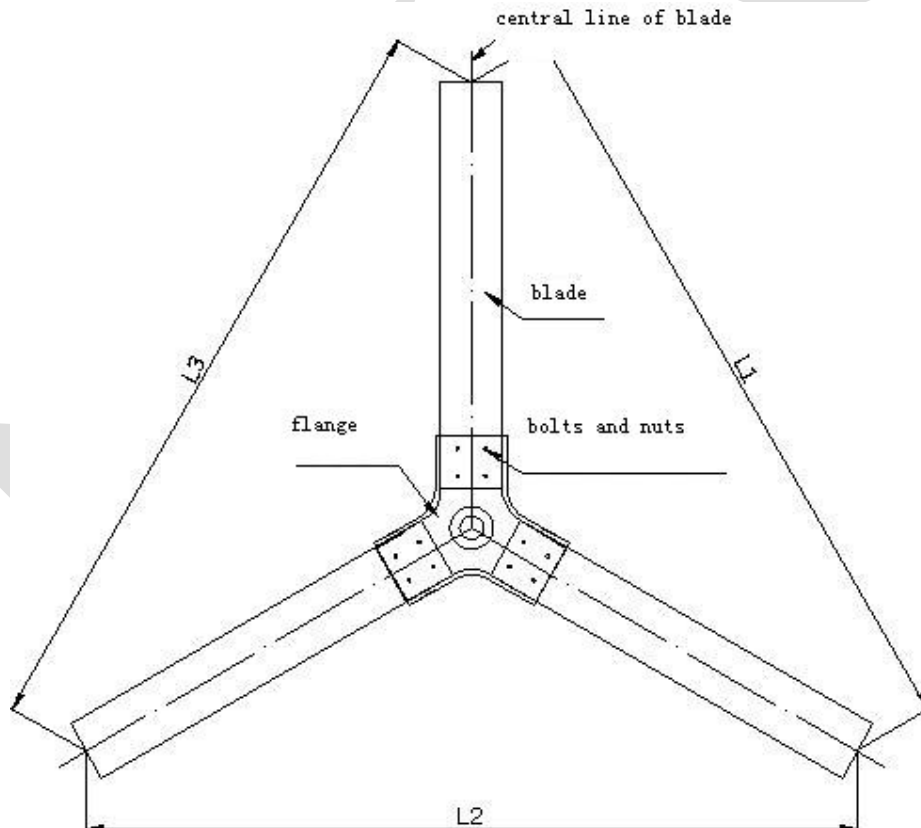
Step two. Use the bolts and nuts for base to fix base on ground. And the anchor inserted in the earth or fixed on the concrete basement. (Depth=500mm, diameter=400mm)

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.

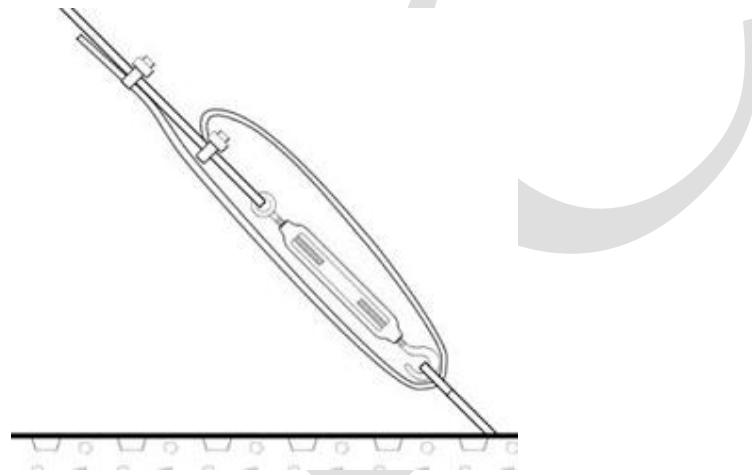
Step five. Lay the blade flange and blades on the ground, then install the blades on the flange with the windward side upward, also keep the blades' balance according to the graph below. When tighten the pivots, please using the wrench with the stated force $15\pm 1\text{Nm}$.



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

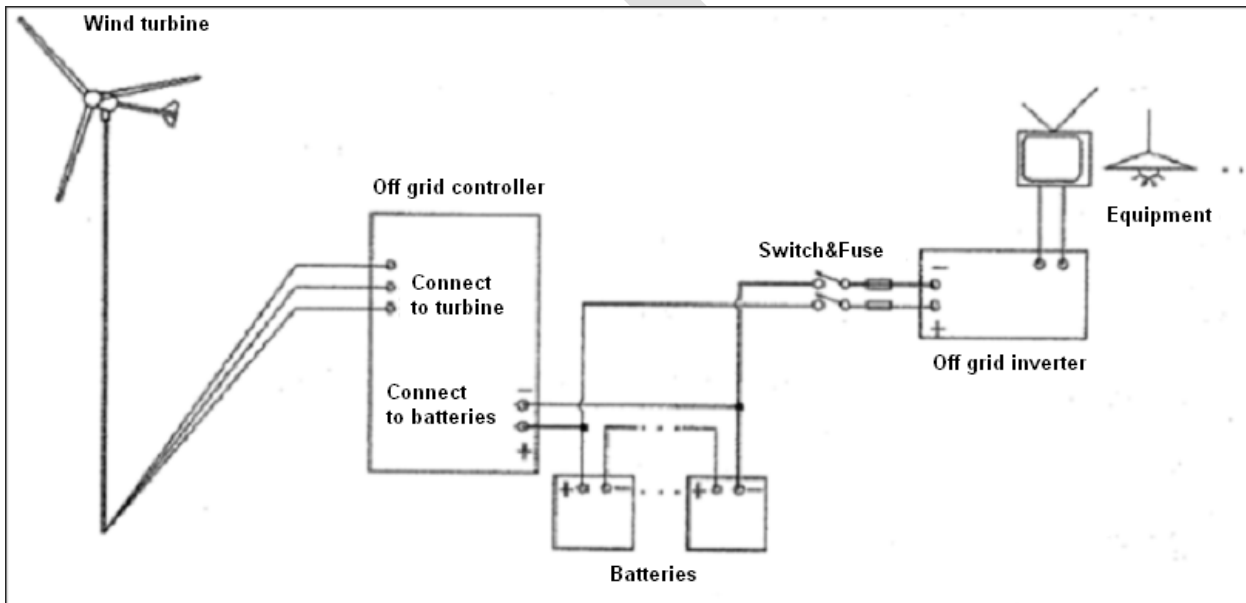


Distance between generator and batteries (m)	<50	50-100	100-150	150-200	200-300
Diameter of wire (mm)	4	6	10	16	20

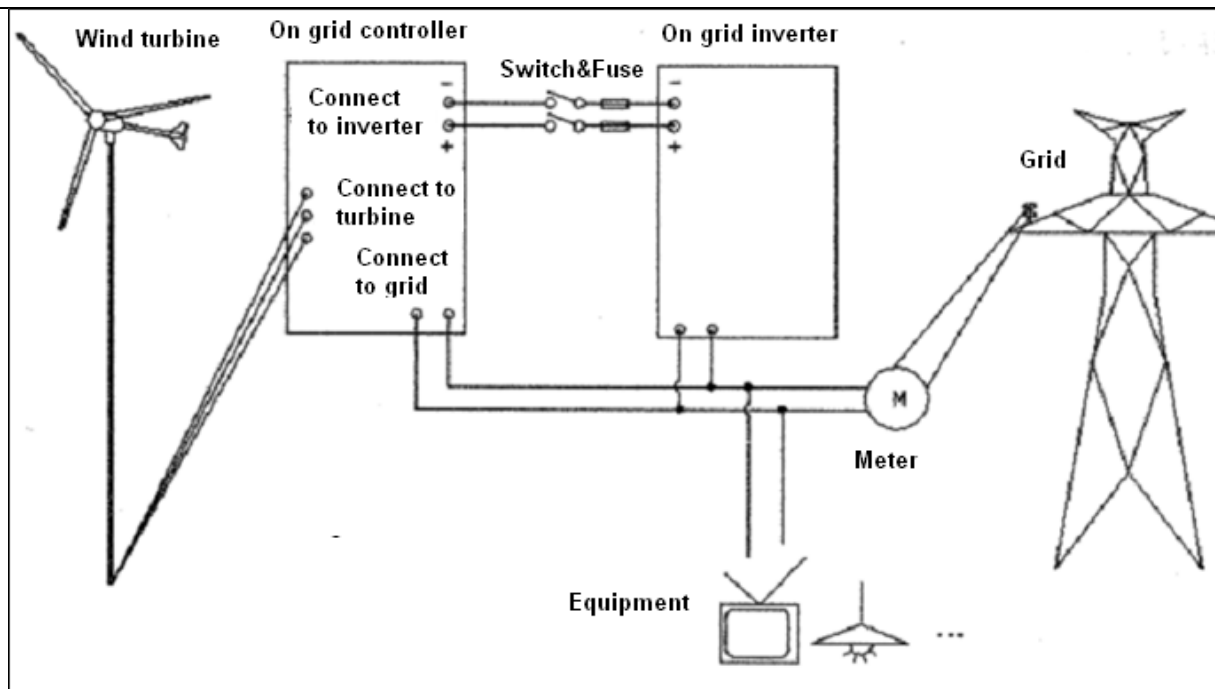
2. Electrical wiring maps of off-grid

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

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 month.

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

For More Details, plz contact..

M/s N.I.C,JAIPUR

www.nicsensorautomation.com

Tel : +91-141-3242493,3021455,09829191374,09784011374.

e-mail: nic_s@rediffmail.com, nic_jpr@indiartimes.com