

### 100KW Wind Turbine Technical Specifications:

Rated power : 100KW  
 Rated voltage : 690V DC  
 Rotor diameter: 15.6m  
 Start-up wind speed: 3m/s  
 Rated wind speed: 13m/s  
 Security wind speed: 60m/s  
 Yawing type: electronic  
 Rated rotating rate: 85 r/m  
 Generator work way: magnetic saturation  
 Generator material: steel  
 Blade material: fiber glass  
 Blade quantity: 3pcs  
 Free stand tower height: 32m  
 matched inverter type : off grid or grid connected inverter ( optional)



### 100KW Wind Turbine Price List

Model	FD10.0-100000
Rated power ( W )	100KW
Rated voltage ( V )	690V
Rotor diameter ( m )	15.6
Start-up wind speed (m/s)	3
Rated wind speed (m/s)	13
Security wind speed (m/s)	60
Yawing type	electronic
Rated rotating rate (r/m)	85
Generator work way	Magnetic saturation
Generator material	Steel
Blade material	Fiber glass
Blade quantity	3
Off grid system 100kw Kit	
Wind generator price(USD)	30064.00*
Blade price (USD)	41304.00*
Off grid Controller price (USD)	2500.00*
Off -grid inverter price (USD)	52172.00
Free stand tower price(USD)	111764.00*
Suggested battery capacity	12v150ah232pcs
Battery price (USD)	130*232=60320.00

Price Remarks Item#340874-40D

\$568,124.00

On grid system 100kw kit	
Wind generator price(USD)	300,064.00*
Blade price (USD)	41,304.00*
On grid Controller price (USD)	2,500.00
On-grid inverter price (USD)	73,530.00
Free stand tower price(USD)	111,764.00*

The price : Item (#285666-70D) \$462982.00

1. Price terms: FOB China.
2. Payment: T/T full account in advance,
3. Factory Warranty: wind generator 3 years, controller, blade and inverter 1 year.
4. delivery: we would deliver it in 45-60days after receipt of account.

## 100KW Generator Testing Report

**100kw**

**PN: J01080750002**

<b>Model</b>	FD16-100/15	<b>PD</b>	2008-7-5
<b>Rated power</b>	100KW	<b>Rated voltage</b>	DC 690V
<b>Protection level</b>	IP54	<b>Cable method</b>	Y
<b>Cooling means</b>	Natural air cooling	<b>Insulated level</b>	F

### 1. Environment:

A) Temperature : 34°C B) Humidity: 58%

### 2. Testing Items

#### 2.1 Mechanism Inspect:

Turning                      Passing/Failing      Pass                      Remark: \_\_\_\_\_  
 Outside Check              Passing/Failing      Pass                      Remark: \_\_\_\_\_

#### 2.2 Insulated Resistance:

Testing Items	Value (MΩ)
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Between windings and body of generator	$\geq 1000$
Between a phase and body of generator A	$\geq 1000$
Between b phase and body of generator B	$\geq 1000$
Between c phase and body of generator C	$\geq 1000$

### 2.3 Starting Torque:

Time	1	2	3
Torque(Nm)	65	65.8	66

### 2.4 DC Current when generator is working.

DC

Test Items	Result ( $\Omega$ )
A and B phase DC resistance A B	$> 6 \Omega$
B and C phase DC resistance B C	$> 6 \Omega$
C and A phase DC resistance C A	$> 6 \Omega$

### 2.5 Withstand voltage:

Test items	Voltage (V)	Current (mA)	Time (min)
Between three phase windings and body of generator	3000	0.01	1
A and B phase A B	3000	5.0	1
B and C phase B C	3000	5.5	1
C and A phase C A	3000	5.6	1

### 2.6 No-load Test:

Frequency (Hz)	Rotor speed (rpm)	Three phase output voltage (V)			Commutating voltage (VDC)
		A-B	B-C	A-C	
15.8	40	336.7	336.6	336.0	464
19.9	50	422.7	422.8	422.1	587
24.1	60	510.2	510.3	510.3	706
28.3	70	595.5	595.5	595.1	821
32.4	80	682.2	682.3	682.1	943
36.6	90	768.2	768.2	768.	1056

				1	
40.8	100	847.7	847.8	847.7	1175
44.9	110	934.6	934.7	934.7	1295
49.1	120	1019.8	1019.8	1019.9	1412

**2.7 Over speed test at No-load condition:**

Passing  Failing

**2.8 Short circuit Test**

Rated rotor speed (rpm)	Short circuit current IAC (A)
85	725

**2.9 No-load test after short circuit**

Rated rotor speed (rpm)	VAC (V)
85	520

**3.0 Power test:**

Rated rotor speed (rpm)	DC(V)	DC(A)	Output power (W)
85	690	145	100000

**3.1 All test items match with GB/T 10760.1-2003 GB/T1029-1993 JBT9578-1999 standard GB/T 10760.1-2003 GB/T1029-1993 JBT9578-1999**

**Wind turbine Blade Technical Data**

Blade profile	semi-monocoque blade with fiber glass reinforced unsaturated polyester composites structure.
Blade wheel diameter	15.6m
Blade material	glass fibre reinforced plastics compound resin
Blade quantity	3
Blade installation angle	blade tip 0.04°
Change of direction	From the front can see wind wheel clockwise rotate
Natural frequency	waving direction 3.05Hz, shimmy direction 4.5Hz.
Installing form	flange mounting
Superficial treatment	white gel coat
Rotor power coefficient	≥0.38
Application lifespan	15years

Single blade weight	88kg
Area	531m <sup>2</sup>

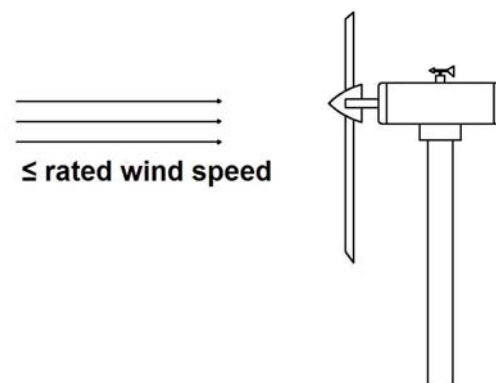
## Electronic Yawing Protection

Electronic system consists of vane, anemoscope, CPU in controller and a DC motor and worm gear.

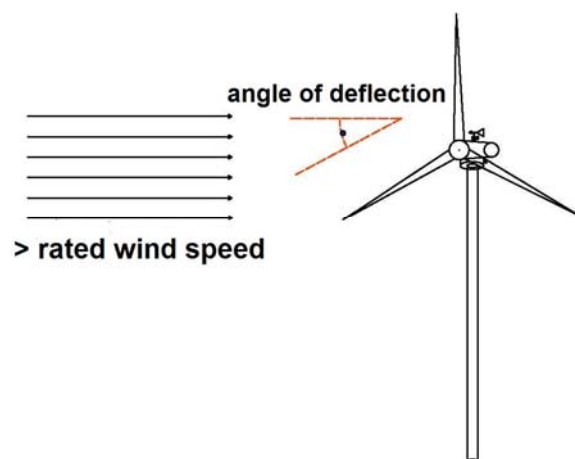
Vane and anemoscope collect the wind information for the CPU in controller. When the direction of wind is changed, the CPU will take orders to the DC motor, to adjust the rotor following the wind direction.

When the wind speed exceeds rated wind speed, the electronic system will turn the rotor a certain angle to the wind direction, in order to keep the wind speed in rated wind speed.

- Picture 1:  
Wind speed is no more than rated wind speed. The generator will face the wind directly.



- Picture 2:  
Now wind speed exceeds rated wind speed. The generator turns a certain angle to be efficient and avoid being damaged. This angle is accurate



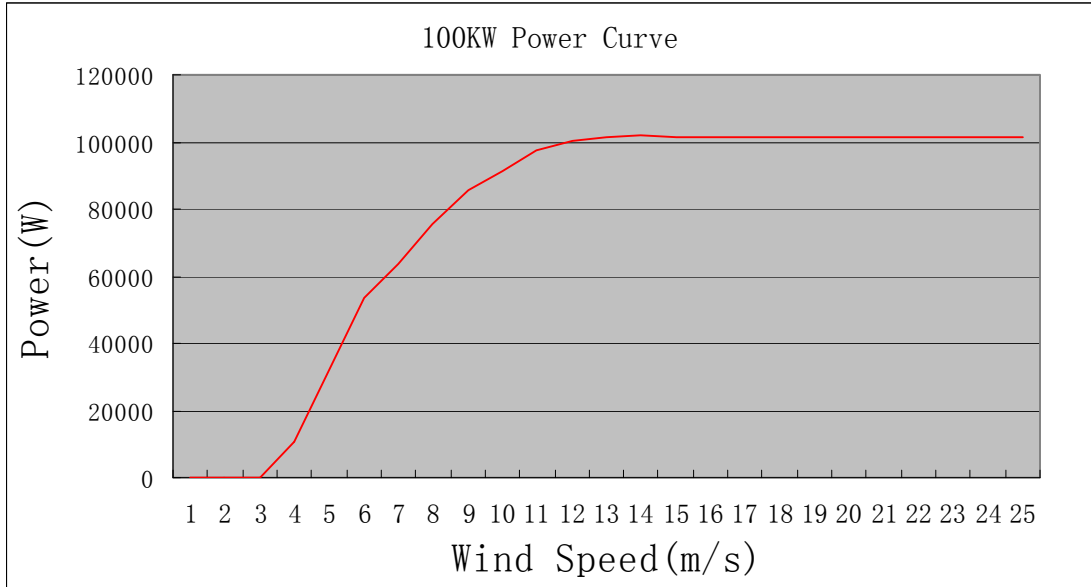
Electronic yawing system

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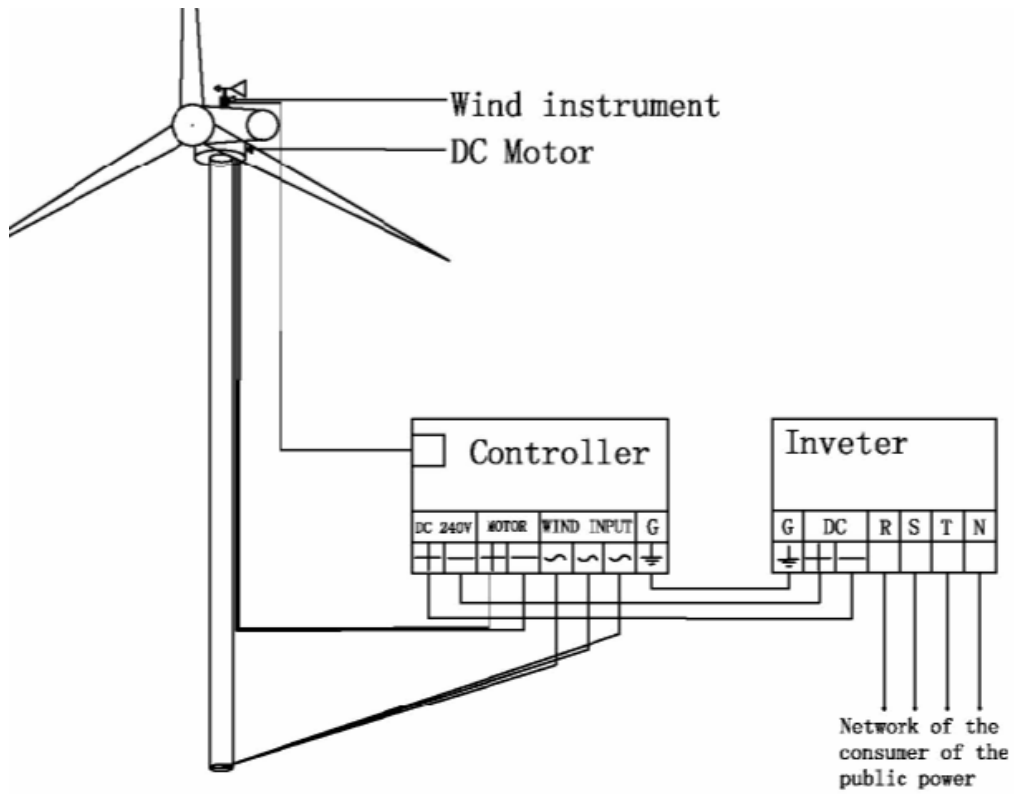
counted by the CPU.

### Power Curve

Wind Speed (m/s)	Power (W)
1-3	0
4	10500
5	31500
6	53500
7	63500
8	75500
9	85500
10	91500
11	97500
12	100400
13	101400
14	102000
15	101500
16	101500
17	101500
18	101500
19	101500
20	101500
21	101500
22	101500
23	101500
24	101500
25	101500



### Wind Turbine System Wiring Diagram



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## Off-grid Inverter





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## **100KW NOISE REPORT**

The distance between wind turbine and test equipment is 0m, 25m, 50m, 75m, 100m, 125m & 150m. It has been tested for several times.

Wind speed(m/s)	2m/s	6m/s	10m/s
Noise (0m)	0db	48.5	56.3
Noise (25m)	0db	45.3	54.2
Noise (50m)	0db	43.8	51.8
Noise (75m)	0db	42.5	48.4
Noise (100m)	0db	38.6	45.8
Noise (125m)	0db	35.7	42.5
Noise (150m)	0db	32.6	40.5