

# SOLAR AND WIND HYBRID GENERATION SYSTEMS





Two kinds of power energy, wind energy complement each other, meet the demand for electricity.

# What is Solar and wind hybrid generation system

Solar and wind Hybrid Generation Systems use wind energy and solar energy as the main power supply source of the load, and cooperates with high-efficiency, maintenance free lead-acid or colloidal battery energy storage system to supply new energy to the load.



# Wind power generation system





Paired with 2 solar panels
100W/150W power Fans 500W



# The main components of solar and wind hybrid generation system

Solar and wind hybrid generation system is mainly composed of wind turbine, solar panels, controller, storage battery, inverter, AC and DC load, etc.

The system is a composite renewable energy power generation system integrating wind energy, solar energy, battery and other energy power generation technologies and system intelligent control technology.



# The advantages of solar and wind hybrid generation system











- ·Using the complementarity of wind energy and solar energy, relatively stable output can be obtained, and the system has high stability and reliability;
- ·Under the condition of ensuring the same power supply, the capacity of energy storage battery can be greatly reduced;
- •Through reasonable design and matching, the power can be basically supplied by the solar and wind hybrid generation systems, and there is little or no need to start the standby power supply, such as diesel generator set, which can obtain better social and economic benefits.







# **Application** scenarios

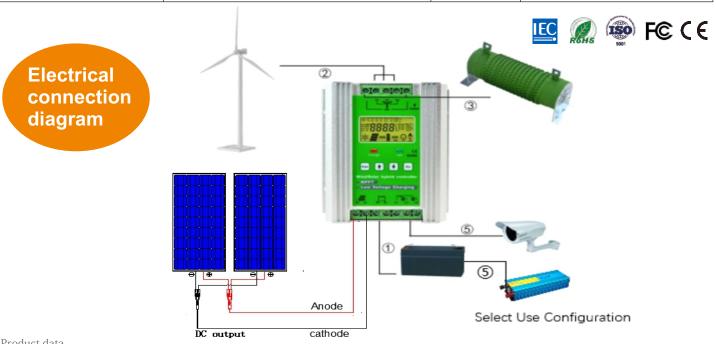


Solar and wind hybrid power generation system is widely used in power shortage life, outdoor application, road lighting, navigation mark application, monitoring power supply, communication application and power station application.



# **300W Material List**

Туре	Specification	Quantity	Remarks note
Solar panel	150W/19.8V 1140*700*25mm	2	
Energy storage battery	200AH/12V	1	Lead-acid colloidal battery
Wind power generator	NE-500M2;500W/DC12V	1	
Controller	12/24-W500/S500; 500W	1	Equipped with discharge resistance
Bracket	Aluminum alloy Z bracket	8	
	① Battery system; red and black lines 1x 16mm², 3m	1	Connected to the controller
	② Wind power system brown; blue and Yellow three-color cable 3x4mm², 10M	1	Connected to the controller
Cable	③ Discharging system; red and black lines 1x 4mm², 1.5M	1	Connected to the controller
	Photovoltaic system; red and black lines 1x2.5mm², 3M	1	Connected to the controller
	⑤ Inverter connection line; Red and black lines 1x16mm², 3M	1	Select Use Configuration; The battery connects to the inverter
Screw	Specification of screw bar: M6*20	16	
Nut	Flange nut specification: M6	16	
Inverter	2000W/230V	1	Select Use Configuration
Terminal	OT-60A	4	

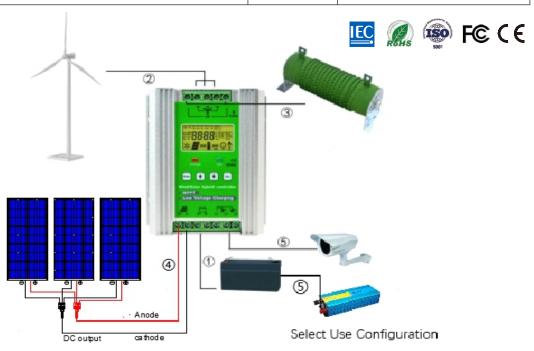




# **450W Material List**

Туре	Specification	Quantity	Remarks note
Solar panel	150W/19.8V 1140*700*25mm	3	
Energy storage battery	200AH/12V	1	Lead-acid colloidal battery
Wind power generator	NE-500M2;500W/DC12V	1	
Controller	12/24-W500/S500; 500W	1	Equipped with discharge resistance
Bracket	Aluminum alloy Z bracket	12	
	① Battery system; red and black lines 1x 16mm², 3m	1	Connected to the controller
	② Wind power system brown; blue and Yellow three-color cable 3x4mm², 10M	1	Connected to the controller
Cable	③ Discharging system; red and black lines 1x 4mm², 1.5M	1	Connected to the controller
	Photovoltaic system; red and black lines 1x2.5mm², 3M	1	Connected to the controller
	⑤ Inverter connection line; Red and black lines 1x16mm², 3M	1	Select Use Configuration; The battery connects to the inverter
Screw	Specification of screw bar: M6*20	24	
Nut	Flange nut specification: M6	24	
Inverter	2000W/230V	1	Select Use Configuration
Terminal	OT-60A	4	







# 150W Solar panel:

## Electrical parameter) | STC

Rated Power	Pmax(W)	150W
Operating Voltage	Vmp(V)	19.8V
Operating Current	Imp(A)	7.58A
Open Circuit Voltage	Voc(V)	23.76V
Short Circuit Current	Isc(A)	8.33A
Module Efficiency	(%)	18.67%
Performance Tolerance	(%)	±5%

# Temperature characteristics:

Solar cell	166×83 Monocrystalline silicon PERC High efficiency solar cells
Connections of cells	36 ( 4x9 )
Weight	7.5Kg
Mechanical Dimension	1140*700*25*20mm
Number of Mounting holes	4
Waterproofing grade of Junction Box	IP67
Cable	0.9m 2.5mm²
Number of diodes	2 (Bypass diodes)
Connector	MC4

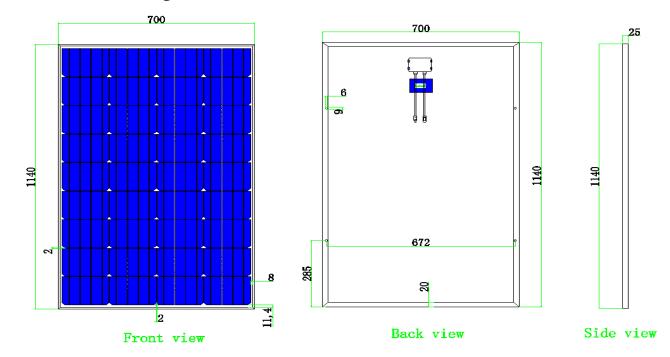


# **Temperature characteristics:**

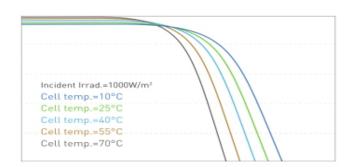
NOTC(Standard Test Conditions)	45±2℃
(Isc( Short Circuit Current Temp.)	+0.050%/°C
Voc( Open Circuit Voltage Temp.)	-0.30%/°C
Pmax (Max. Power Temp.)	-0.39%/°C

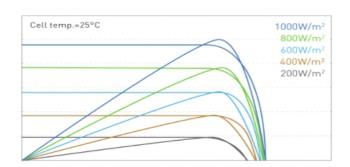
Operating Temperature	-40~+85°C			
Max.System Voltage	1000V DC			
Maximum diode current	10A			

#### Structural drawing:



#### Output of different illumination intensity:







## Lead-acid colloidal battery:

## Specificaons

Model	6-GFM-200				
Design Life	12 years				
	20HR(10.8A,1.80V)	216Ah			
Naminal Canasitu	10HR(200Af 1.80V)	200Ah			
Nominal Capacity	1HR(110A,1.80V)	162Ah			
	1HR(110A,1.80V)	110Ah			
Internal Resistance	3.2mQ(Fu	ill Charge)			
Self Discharge	≤3% pe	er month			
	Cycle Use	Standby Use			
Charge Voltage	2.35V/Cell (-4mV/°C/Cell)	2.25V/Cell (-3mV/°C/Cell)			



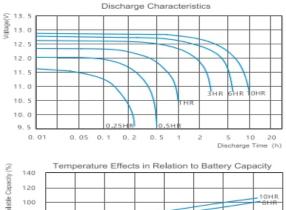
#### Constant Current Discharge Rate (A, 25°C)

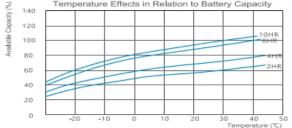
Madal	FV (V/Coll)	Minute				Hour										
Model	EV. (V/Cell)	5	10	15	20	30	45	1	2	3	4	5	6	8	10	20
	1.85	372	306	247	205	160	126	109	66.9	49.5	40.1	33.8	29.7	23.9	19.8	10.5
	1.80	426	326	272	234	170	132	112	68.4	50.5	41.0	34.6	30.3	24.4	20.3	10.7
&GFM-200	1.75	449	346	286	244	178	138	116	70.0	51.7	41.7	35.4	30.9	24.7	20.6	10.8
	1.70	433	368	302	260	186	144	120	71.7	52.8	42.5	36.0	31.4	25.1	20.7	10.9
	1.67	508	388	321	273	192	148	123	73.2	53.9	43.5	36.8	32.1	25.5	20.9	11.0
	1.60	546	409	337	285	198	153	125	74.7	55.3	44.3	37.6	32.7	25.8	21.1	11.2

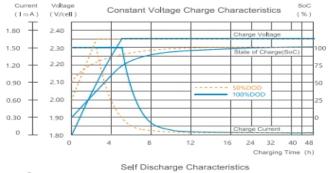
#### Constant Power Discharge Rate (Watt/Cell, 25°C)

N		Minute						Hour								
Model	EV. (V/Cell)	5	10	15	20	30	45	1	2	3	4	5	6	8	10	20
	1.85	642	541	486	434	357	285	236	150	101	80.8	68.3	59.8	47.4	39.7	23.4
	1.80	719	596	526	469	382	305	247	157	107	83.6	70.2	61.6	48.4	41.0	24.4
&GFM-200	1.75	765	651	561	497	401	315	254	160	110	85.1	71.3	62.3	48.8	41.9	24.7
	1.70	801	694	590	518	413	321	259	161	111	85.8	71.7	62.0	49.0	42.2	24.8
	1.67	831	724	613	532	420	324	261	162	112	86.2	72.1	63.0	49.1	42.4	24.9
	1.60	853	746	633	542	425	326	262	163	113	87.2	72.3	63.2	49.3	42.5	25.0

#### Performance







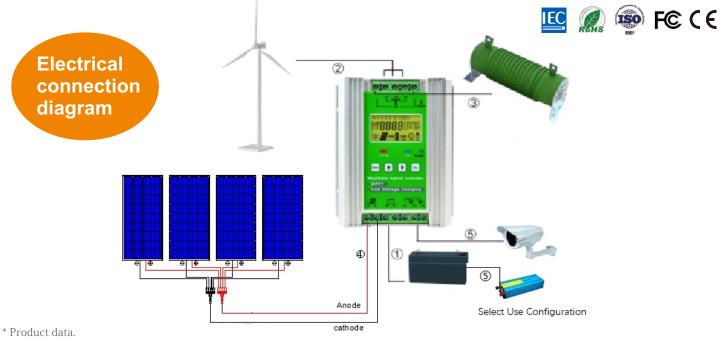


<sup>\*</sup> Product data.



# **400W Material List**

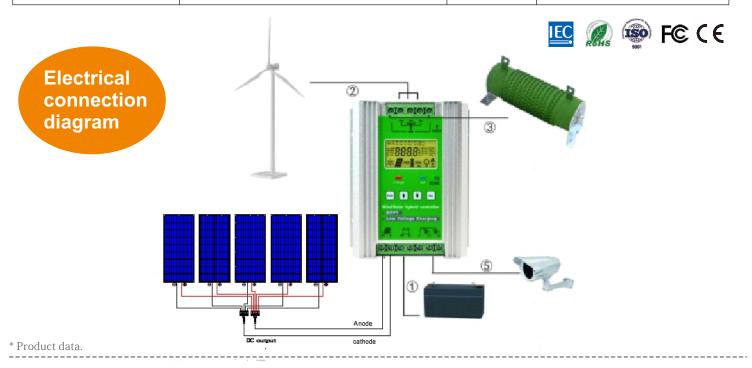
Туре	Specification	Quantity	Remarks note
Solar panel	100W/19.8V 1050*530*25m	4	
Energy storage battery	250AH/12V	1	Lead-acid colloidal battery
Wind power generator	NE-500M2;500W/DC12V	1	
Controller	12/24-W500/S500; 500W	1	Equipped with discharge resistance
Bracket	Aluminum alloy Z bracket	16	
	① Battery system; red and black lines 1x 16mm², 3m	1	Connected to the controller
	② Wind power system brown; blue and Yellow three-color cable 3x4mm², 10M	1	Connected to the controller
Cable	③ Discharging system; red and black lines 1x 4mm², 1.5M	1	Connected to the controller
	Photovoltaic system; red and black lines 1x2.5mm², 3M	1	Connected to the controller
	⑤ Inverter connection line; Red and black lines 1x16mm², 3M	1	Select Use Configuration; The battery connects to the inverter
Screw	Specification of screw bar: M6*20	32	
Nut	Flange nut specification: M6	32	
Inverter	2000W/230V	1	Select Use Configuration
Terminal	OT-60A	4	





# **500W Material List**

Туре	Specification	Quantity	Remarks note
Solar panel	100W/19.8V 1050*530*25m	5	
Energy storage battery	250AH/12V	1	Lead-acid colloidal battery
Wind power generator	NE-500M2;500W/DC12V	1	
Controller	12/24-W500/S500; 500W	1	Equipped with discharge resistance
Bracket	Aluminum alloy Z bracket	20	
	① Battery system; red and black lines 1x 16mm², 3m	1	Connected to the controller
	② Wind power system brown; blue and Yellow three-color cable 3x4mm², 10M	1	Connected to the controller
Cable	③ Discharging system; red and black lines 1x 4mm², 1.5M	1	Connected to the controller
	Photovoltaic system; red and black lines 1x2.5mm², 3M	1	Connected to the controller
	⑤ Inverter connection line; Red and black lines 1x16mm², 3M	1	Select Use Configuration; The battery connects to the inverter
Screw	Specification of screw bar: M6*20	40	
Nut	Flange nut specification: M6	40	
Inverter	2000W/230V	1	Select Use Configuration
Terminal	OT-60A	4	





# 100W Solar panel:

## Electrical parameter) | STC

Rated Power	Pmax(W)	100W
Operating Voltage	Vmp(V)	19.8V
Operating Current	Imp(A)	5.05A
Open Circuit Voltage	Voc(V)	23.76V
Short Circuit Current	Isc(A)	5.55A
Module Efficiency	(%)	18%
Performance Tolerance	(%)	±5%

# Temperature characteristics:

Solar cell	166×83 Monocrystalline silicon PERC High efficiency solar cells
Connections of cells	36 ( 3x12 )
Weight	7.5Kg
Mechanical Dimension	1050*530*25m
Number of Mounting holes	4
Waterproofing grade of Junction Box	IP67
Cable	0.9m 2.5mm²
Number of diodes	2(Bypass diodes)
Connector	MC4

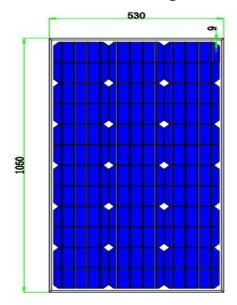


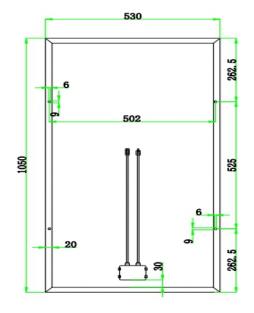
# **Temperature characteristics:**

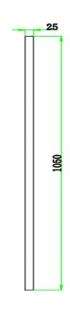
NOTC(Standard Test Conditions)	45±2℃
(Isc( Short Circuit Current Temp.)	+0.050%/°C
Voc( Open Circuit Voltage Temp.)	-0.30%/°C
Pmax (Max. Power Temp.)	-0.39%/°C

Operating Temperature	-40~+85°C
Max.System Voltage	1000V DC
Maximum diode current	10A

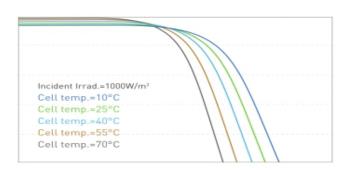
#### Structural drawing:

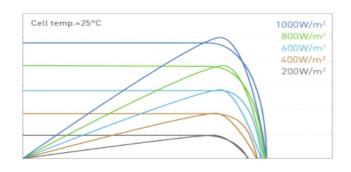






#### Output of different illumination intensity:







## Lead-acid colloidal battery:

## Specificaons

Model	6-GFM-250				
Design Life	12 years				
	20HR(13.5A,1.80V)	270Ah			
Naminal Canasity	10HR(25Af 1.80V)	250Ah			
Nominal Capacity	3HR(67.5A,1.80V)	202.5Ah			
	1HR(137.5A,1.80V)	137.5Ah			
Internal Resistance	2.5mQ(Fu	ll Charge)			
Self Discharge	≤3% per month				
	Cycle Use	Standby Use			
Charge Voltage	2.35V/Cell(-4mV/°C/Cell) Max.Charge Current:37.5A	2.25V/Cell (-3mV/°C/Cell)			



Note:Data contained herein are measured at 25°C

#### Constant Current Discharge Rate (A, 25°C)

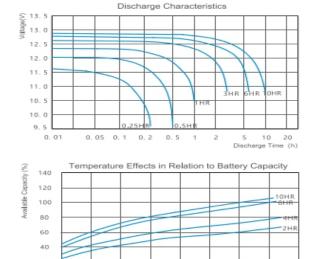
Madal	EV (V/Call)	Minute					Hour									
Model	EV. (V/Cell)	5	10	15	20	30	45	1	2	3	4	5	6	8	10	20
	1.85	396	371	331	284	212	160	136	87.6	63.9	50.3	42.3	37.3	24.7	24.7	13.1
	1.80	473	416	362	304	225	165	140	90.8	66.3	51.7	43.3	38.2	30.7	25.3	13.4
6-GFM-250	1.75	511	440	379	320	236	172	145	93.6	67.9	52.9	44.2	38.9	31.4	25.7	13.5
0 01 111 200	1.70	549	465	396	334	246	180	150	96.0	69.3	53.9	45.0	39.6	31.8	25.9	13.6
	1.67	570	477	402	342	256	184	155	98.0	70.5	54.8	45.7	40.1	32.1	26.1	13.7
	1.60	608	501	419	356	264	189	157	99.7	71.6	55.7	46.4	40.5	32.3	26.3	13.9

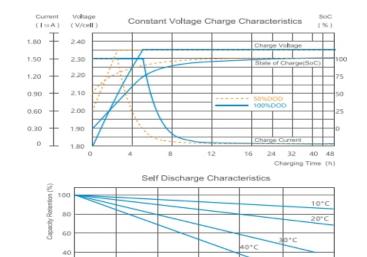
#### Constant Power Discharge Rate (Watt/Cell, 25°C)

FV (V/C-II)		Minute					Hour									
Model EV. (V/Cell)	5	10	15	20	30	45	1	2	3	4	5	6	8	10	20	
	1.85	802	677	608	542	446	356	294	187	126	101	85.4	74.8	59.2	49.7	29.3
	1.80	898	748	658	586	477	381	309	196	133	105	87.8	77.0	60.5	51.3	30.5
6-GFM-200	1.75	957	814	701	624	501	393	318	200	137	106	89.1	77.9	61.0	52.3	30.9
0 01 111 200	1.70	1001	868	738	648	516	401	323	201	139	107	89.7	77.5	61.3	52.7	31.1
	1.67	1038	905	767	666	526	405	326	203	140	108	90.1	78.7	61.4	52.9	31.2
	1.60	1066	933	791	677	531	407	328	204	141	109	90.4	78.9	61.6	53.1	31.3

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#### Performance





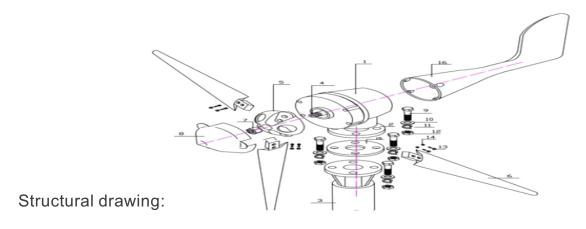
\* Product data.



## Wind power generator

#### **Product Parameter**

Model	NE-500M2
Power rating	500W
Maximum power	530W
Rated voltage	12/24V
Start wind speed	2.5m/s
Rated wind speed	11.5m/s
Survival wind speed	45m/s
Host net weight	15.3kg
Rotor diameter	1.7m
The number of leaves	3 / 5 Piece
Leaf material	Nylon fiber
Generator type	Three-phase AC permanent magnet direct drive
Magnetic steel material	NdFeB
Generator housing material	Aluminium die casting
Navar	Electromagnetic / wind wheel is sideways
Mode of speed regulation	Automatically adjust the windwind angle
Working temperature	-40°C — 80°C
lubricating system	Fill grease





#### **Controller Electrical Parameters**

#### Photovoltaic Electrical Parameters:

Photovoltaic electrical parameters				
System rated voltage / V	12	24	48	
PV array maximum open circuit voltage / V	27.6	55.2	105	
Recovery voltage / V after the maximum open circuit of the PV array	26.4	52.8	100	
PV array minimum operating voltage / V	>V bat +1V	>V bat +1V	>V bat +1V	
PV module power range / W	≦ 500	≦ 800	≦ 1000	

#### Electric parameters of the fan:

Fan electrical parameters						
Battery system voltage level / V	12	24	48			
Fan rated voltage level / V	12	24	48			
Fan maximum open circuit voltage / V	25.6	51.2	102.4			
Wind turbine power range / W	≦ 500	≦ 800	≦ 1500			

#### Structural drawing:





#### Structural drawing:



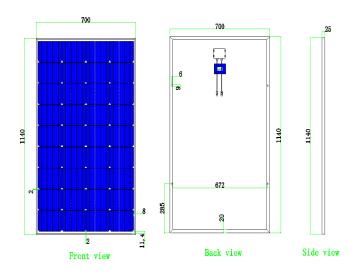
Model	CXP2020
Output waveform	Puer sine wave
Rated Power	2000W
Peak Power	4000W
Rated Input volt	DC 12V
Input voltage range	10V-DC15.5V
Frequency	50HZ+/-3HZ
Output volt	240V AC
Efficiency	>90%
No load current draw	<1.2A



# 300W Solar +500W Wind Series

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
- In the next assemblies, open the packaging of the solar panel without using sharp tools, since which could damage the components inside.

#### Fittings:



19.8V/150W Solar Panel: 2pcs



Wind power generator NE-500M2; Rated power: 500W/DC12V: 1set;



Controller: 12/24-W500/S500; Discharge resistance: 1set



Energy storage battery: 200AH/12V; Lead-acid colloidal battery: 1set



- ① Battery system; red and black lines . 1\*16mm²,3M: 1set.
- ② Wind power system brown; blue and red three-color cable.3x4mm<sup>2</sup>,10M: 1set.
- ③ Discharging system; red and black lines. 1x 4mm²,1.5M: 1set.
- 4 Photovoltaic system; red and black lines. 1x2.5 mm², 3M: 1set .
- (5) Inverter connection line; Red and black lines 1x16mm², 3M: 1PC (Select Use Configuration)











Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 1: Red and black lines 1x 16mm<sup>2</sup>.

Figure 3: Red and black lines 1x 4mm<sup>2</sup>.

Figure 5: Red and black lines 1x16mm<sup>2</sup>.

Figure 2: Blue and Yellow three-color cable.3x4mm<sup>2</sup>.

Figure 4: Red and black lines 1x2.5mm<sup>2</sup>.







Screw: Specification of screw

Bar: M6\*20: 16pcs

Flange nut specification: M6: 16pcs



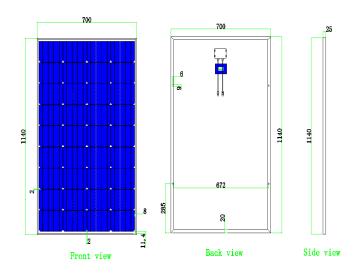
Offgrid inverter(Select Use Configuration): 1set.



# 450W Solar +500W Wind Series

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
- In the next assemblies, open the packaging of the solar panel without using sharp tools, since which could damage the components inside.

#### Fittings:



19.8V/150W Solar Panel: 3pcs



Wind power generator NE-500M2; Rated power: 500W/DC12V: 1set;



Controller: 12/24-W500/S500; Discharge resistance: 1set



Energy storage battery: 200AH/12V; Lead-acid colloidal battery: 1set



- ① Battery system; red and black lines . 1\*16mm²,3M: 1set.
- ② Wind power system brown; blue and red three-color cable.3x4mm<sup>2</sup>,10M: 1set.
- ③ Discharging system; red and black lines. 1x 4mm²,1.5M: 1set.
- 4 Photovoltaic system; red and black lines. 1x2.5 mm², 3M: 1set .
- ⑤ Inverter connection line; Red and black lines 1x16mm², 3M: 1PC (Select Use Configuration)











Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 1: Red and black lines 1x 16mm<sup>2</sup>.

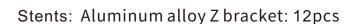
Figure3: Red and black lines 1x 4mm<sup>2</sup>.

Figure 5: Red and black lines 1x16mm<sup>2</sup>.

Figure 2: Blue and Yellow three-color cable.3x4mm<sup>2</sup>.

Figure 4: Red and black lines 1x2.5mm<sup>2</sup>.







Screw: Specification of screw

Bar: M6\*20: **24**pcs

Flange nut specification: M6: **24**pcs



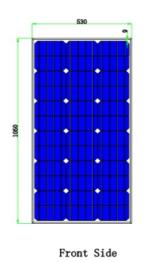
Offgrid inverter(Select Use Configuration): 1set.



# 400W Solar +500W Wind Series

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
- In the next assemblies, open the packaging of the solar panel without using sharp tools, since which could damage the components inside.

#### Fittings:



530

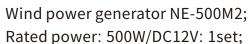
Back side



Side

19.8V/100W Solar Panel: 4pc







Controller: 12/24-W500/S500; Discharge resistance: 1set



Energy storage battery: 250AH/12V; Lead-acid colloidal battery: 1set



- ① Battery system; red and black lines . 1\*16mm²,3M: 1set.
- ② Wind power system brown; blue and red three-color cable.3x4mm<sup>2</sup>,10M: 1set.
- ③ Discharging system; red and black lines. 1x 4mm²,1.5M: 1set.
- 4 Photovoltaic system; red and black lines. 1x2.5 mm², 3M: 1set .
- (5) Inverter connection line; Red and black lines 1x16mm², 3M: 1PC (Select Use Configuration)











Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 1: Red and black lines 1x 16mm<sup>2</sup>.

Figure 3: Red and black lines 1x 4mm<sup>2</sup>.

Figure 5: Red and black lines 1x16mm<sup>2</sup>.

Figure 2: Blue and Yellow three-color cable.3x4mm<sup>2</sup>.

Figure 4: Red and black lines 1x2.5mm<sup>2</sup>.







Screw: Specification of screw

Bar: M6\*20: **32**pcs

Flange nut specification: M6: **32**pcs



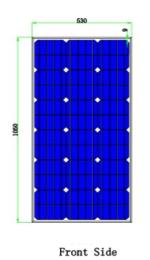
Offgrid inverter(Select Use Configuration): 1set.

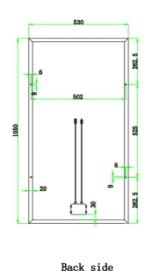


# 500W Solar +500W Wind Series

- Before starting the assembly, make sure you have all the necessary materials and tools for the installation, as well as the security measures necessary for this task.
- In the next assemblies, open the packaging of the solar panel without using sharp tools, since which could damage the components inside.

### Fittings:







Side

19.8V/100W Solar Panel: 5pc



Wind power generator NE-500M2; Rated power: 500W/DC12V: 1set;



Controller: 12/24-W500/S500; Discharge resistance: 1set



Energy storage battery:250AH/12V; Lead-acid colloidal battery: 1set



- ① Battery system; red and black lines . 1\*16mm²,3M: 1set.
- ② Wind power system brown; blue and red three-color cable.3x4mm<sup>2</sup>,10M: 1set.
- ③ Discharging system; red and black lines. 1x 4mm²,1.5M: 1set.
- 4 Photovoltaic system; red and black lines. 1x2.5 mm², 3M: 1set .
- (5) Inverter connection line; Red and black lines 1x16mm², 3M: 1PC (Select Use Configuration)











Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 1: Red and black lines 1x 16mm<sup>2</sup>.

Figure3: Red and black lines 1x 4mm<sup>2</sup>.

Figure 5: Red and black lines 1x16mm<sup>2</sup>.

Figure 2: Blue and Yellow three-color cable.3x4mm<sup>2</sup>.

Figure 4: Red and black lines 1x2.5mm<sup>2</sup>.







Screw: Specification of screw

Bar: M6\*20:40pcs

Flange nut specification: M6: **40**pcs



Offgrid inverter(Select Use Configuration): 1set.



### **Installation tool:**





6.Hex socket wrench



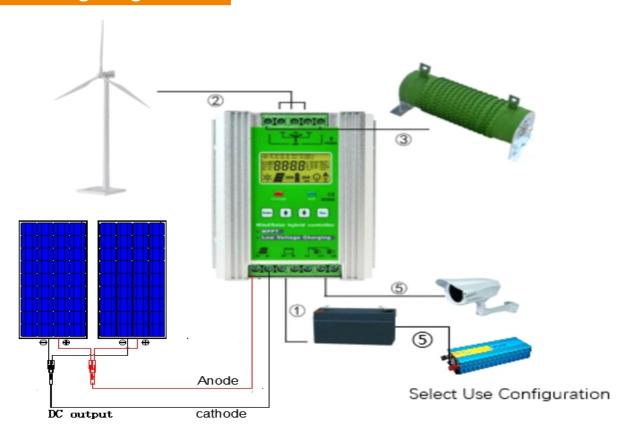
7.Wrench

## **Schematic diagram of Controller Electrical**

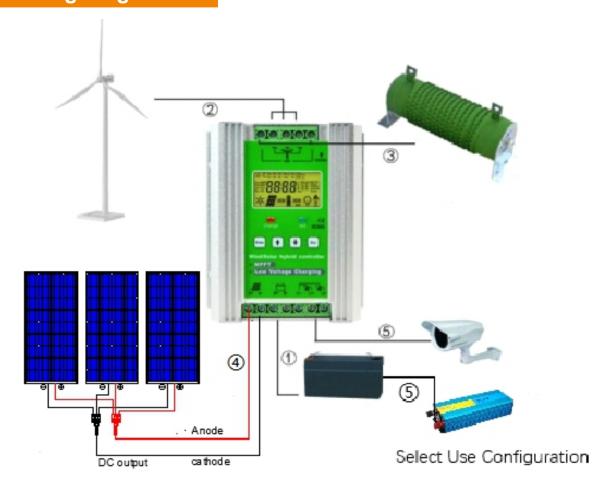




# 300W Wiring Diagram:

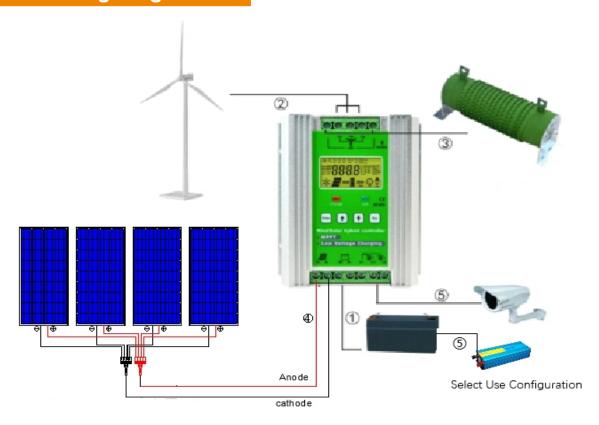


## 450W Wiring Diagram:

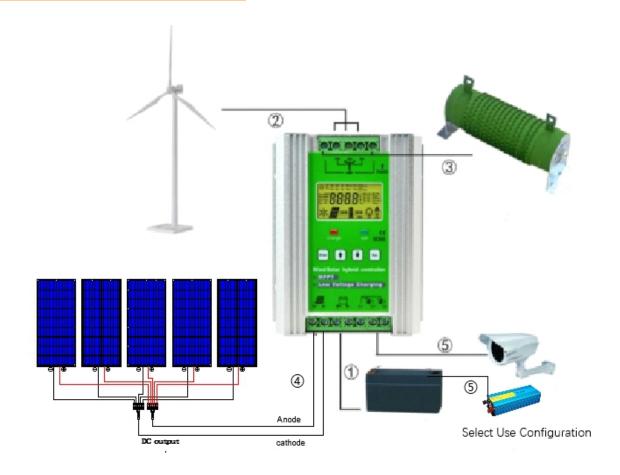




# 400W Wiring Diagram:



## 500W Wiring Diagram:





#### **Installation Guide:**

- **STEP 1**: Select a fixed location to install the storage battery.
- (1)Install the battery in a safe and fixed place.
- (2)The storage battery shall be fixed indoors or outdoors in a rain free place.
- **STEP 2:** Install the wind turbine generator.
- (1) Install the fan in a safe position with strong wind
- (2) Install the discharge resistance device on the controller.
- **STEP 3:** Install the controller.
- (1) Install the controller in a fixed position.
- (2) The controller shall be fixed indoors or outdoors in a rain free place.
- **STEP 4**: Install the solar panels and choose a fixed location.
- (1) Install the Solar Panel
- Option A: The solar panels are mounted on portable stands;
- Option B: Hang the solar photovoltaic panel holder in a secure and fixed position.
- (2) Cautions: The solar panel needs to be installed firmly, the installation location should be without shelter, and it can be fully and normally lighted by sunlight.
- **STEP 5:** Installation of inverter(Select Use Configuration).
- (1) The inverter can be fixed at indoor or outdoor where it is out of the rain.

#### **STEP 6:** Connecting line.

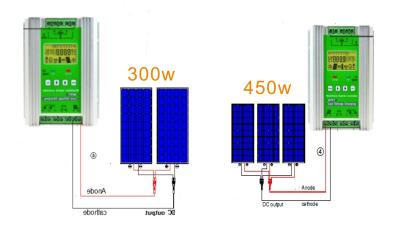


(1) Connect the storage battery to the controller with wires.



- (2) Wire the wind generator to the controller.
- (3) Install the discharge resistor device on the controller.







(4) Wire the solar panel to the controller.

(5) Connect the DC load to the controller, or connect the inverter (select the configuration) to the controller.

**STEP 7:** After completing the above steps, Observe the Working Status of the System After the system is assembled, pay close attention to the working status. If there is any abnormality, please turn off the power, and check it immediately.

#### **Malfunction Analysis**

The controller displays UOVER and the icon flashes Possible reasons:

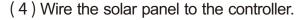
- 1. The controller overvoltage protection point is lower than the highest value of the charging range;
- 2.Battery aging or overdischarge;
- 3. Large load dynamic change;

#### The solution:

- 1. Set the battery overvoltage protection point through the equipment keys or APP;
- 2. Change the battery for aging;
- 3. Reduce the large dynamic change of the load;









(5) Connect the DC load to the controller, or connect the inverter (select the configuration) to the controller.

**STEP 7:** After completing the above steps, Observe the Working Status of the System After the system is assembled, pay close attention to the working status. If there is any abnormality, please turn off the power, and check it immediately.

### **Malfunction Analysis**

The controller displays UOVER and the icon flashes Possible reasons:

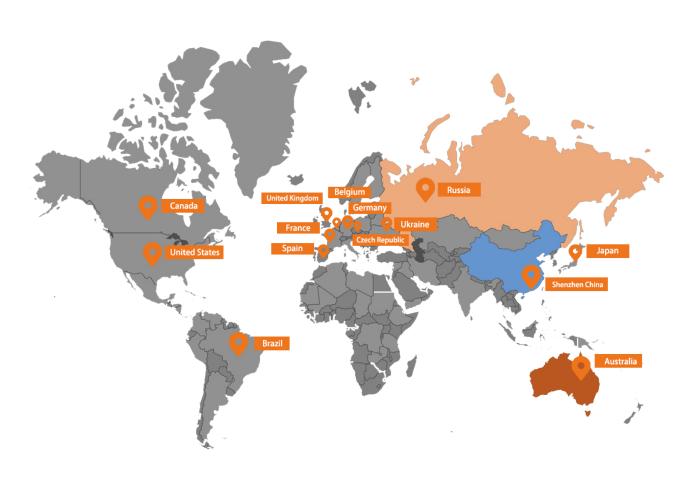
- 1. The controller overvoltage protection point is lower than the highest value of the charging range;
- 2.Battery aging or overdischarge;
- 3. Large load dynamic change;

#### The solution:

- 1. Set the battery overvoltage protection point through the equipment keys or APP;
- 2. Change the battery for aging;
- 3. Reduce the large dynamic change of the load;



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