

EEB1 Series

2000W PWM Wind/Solar Hybrid Controller Off-grid



Controller



Dump load

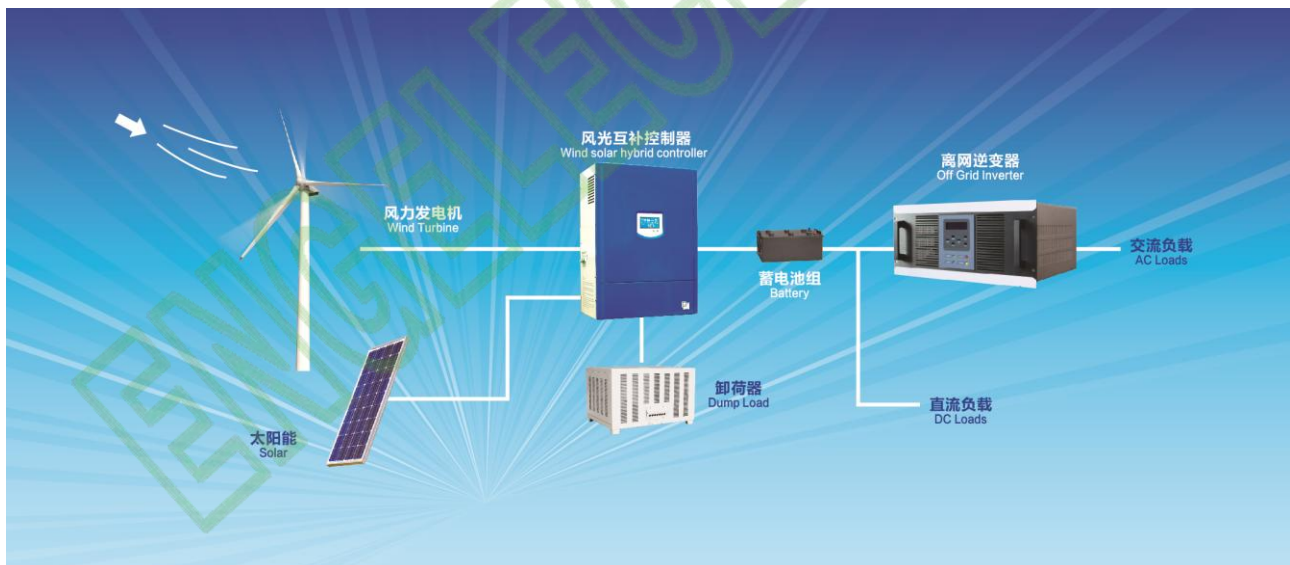
Product Features:

- ◆ The product is manufactured according the JB/T6939.1-2004 industrial standard and GB/T 19115.1-2003 national standard also with users' technical requirements.
- ◆ Big LCD display. The images tell working state visually. Various data show: real-time wind turbine voltage, current, power; solar panel voltage, current, power; battery group voltage, charge current.(The main board is with button battery, in case of power failure, history data can be saved for 30 days)
- ◆ Two sets of control systems: PWM constant voltage system and three-phase dump load system.
- ◆ PWM constant voltage control is 120% of the rated power of the wind turbine. In case exceeding of PWM's capacity, the three-phase dump load will automatically start immediately to ensure safe running of the overall wind turbine system.
- ◆ When the strong or super-strong wind conditions PWM control to ensure battery charged by the wind turbine with constant voltage and current.
- ◆ When the battery disconnect or damage, the three-phase dump load will start automatically to avoid the wind turbine idling and runaway accident.
- ◆ The protection function of battery: polarity reverse protection, disconnection and damage protection.
- ◆ Over-charging protection of the battery: When the battery is full (the battery voltage getting 125% of the rated voltage), the controller will carry out three-phase dump load automatically to stop charging the battery.
- ◆ Auto recharging of battery: When the battery voltage reduces to 108% of the rated voltage,it stops three-phase dump load to recharge battery automatically.
- ◆ The controller is equipped with manual three-phase dump load switch. To using this switch, the wind turbine will carry out three-phase dump load forcibly.
- ◆ The inside of the controller is equipped with surge arrester. Contain the over voltage into the wind turbine under the bearable voltage of the equipment or system. On the other way, to conduct the strong lightening current into the earth directly to avoid any damage of equipment.

Optional Function:

- ※ Solar panel control system is optional based on customers' requirement.
- ※ Diesel generator port is optional. Control the generator start and stop automatically
- ※ Adopt Modbus Communication protocol. Convenient to carry out the secondary development.
- ※ Adjusting the technical specification via RS485 is available. Convenient to adjust the different wind turbines for professional customers.
- ※ Support WIFI and GPRS. Customers can monitor the real-time working state of the on grid wind power system via PC and mobile and query history working sate. Both Android and OS are compatible in Mobile.
- ※ For the different wind turbine, the controller can be equipped with mechanical yawing, Rotate tail control, furred empennage, mechanical brake, hydraulic brake, electromagnetism brake and other brake functions.

Connection Diagram:



Technical Parameters

Type	2KW-24Vdc	2KW-48Vdc	2KW-96Vdc
Wind turbine rated power	2KW	2KW	2KW
Wind turbine max. power	4KW	4KW	4KW
*Solar panel power	600Wp	600Wp	600Wp
Battery	24Vdc	48Vdc	96Vdc
Function	Rectifier, charge, control, *DC output		
Automatic protection function	Over voltage protection, constant voltage charge, arrester		
Manual function	Manual brake		
Display mode	LCD+LED		
Display content	Wind turbine voltage, current, power; solar panel voltage, current, power; battery voltage, charge current		
PWM constant pressure voltage	>29Vdc	>58Vdc	>116Vdc
Wind turbine 3-phase dump load voltage	30±1Vdc	60±1Vdc	120±2Vdc
Wind turbine recharge voltage	27±1Vdc	54±1Vdc	108±2Vdc
*Solar control stop charging voltage	29±1Vdc	58±1Vdc	116±2Vdc
*Solar control recharge voltage	<29Vdc	<58Vdc	<116Vdc
*Diesel generator starting voltage	20±1Vdc	40±1Vdc	80±2Vdc
*Diesel generator off voltage	27±1Vdc	54±1Vdc	108±2Vdc
Self-provided battery connecting wire	>20mm ²	>10mm ²	>24mm ²
PWM fuse	100A	50A	32A
*Solar fuse	32A	16A	10A
Charging fuse	125A	63A	40A
Work environment temperature	-30-60°C		

Relative humidity	<90% No condensation		
Noise (1m)	<40dB		
Degree of protection	IP20 (Indoor) IP65 (Outdoors)		
Cooling method	Forced air cooling		
*Extral Control function (optional)	Yawing, variable pitch, mechanical brake, hydraulic brake, electromagnetism brake		
* Communication interface (optional)	RS485/USB/GPRS/WIFI/Ethernet		
*Temperature compensation (optional)	-4mv/°C/2V,-35°C~+80°C, Accuracy:±1°C		
Controller Size (mm) Weight (kg)	580*400*240 22Kg	510*360*240 17Kg	510*360*240 17Kg
Dump load Size (mm) Weight (kg)	410*290*120 8Kg	410*290*120 8Kg	410*290*120 8Kg

Type	2KW-120Vdc	2KW-220Vdc
Wind turbine rated power	2KW	2KW
Wind turbine max. power	4KW	4KW
*Solar panel power	600Wp	600Wp
Battery	120Vdc	220Vdc
Function	Rectifier,charge, control, *DC output	
Automatic protection function	Over voltage protection, constant voltage charge, arrester	
Manual function	Manual brake	
Display mode	LCD+LED	
Display content	Wind turbine voltage, current, power; solar panel voltage, current, power; battery voltage, charge current	
PWM constant pressure voltage	>145Vdc	>260Vdc
Wind turbine 3-phase dump load voltage	150±2Vdc	270±2Vdc

Wind turbine recharge voltage	138±2Vdc	245±2Vdc
*Solar control stop charging voltage	150±2Vdc	265±2Vdc
*Solar control recharge voltage	138±2Vdc	245±2Vdc
*Diesel generator starting voltage	100±2Vdc	180±2Vdc
*Diesel generator off voltage	135±2Vdc	245±2Vdc
Self-provided battery connecting wire	>4mm ²	>2.5mm ²
PWM fuse	20A	10A
*Solar fuse	7A	4A
Charging fuse	32A	20A
Work environment temperature	-30-60°C	
Relative humidity	< 90% No condensation	
Noise (1m)	< 40dB	
Degree of protection	IP20 (Indoor) IP65 (Outdoors)	
Cooling method	Forced air cooling	
*Extral Control function (optional)	Yawing, variable pitch, mechanical brake, hydraulic brake, electromagnetism brake	
* Communication interface (optional)	RS485/USB/GPRS/WIFI/Ethernet	
*Temperature compensation (optional)	-4mv/°C/2V,-35°C~+80°C, Accuracy:±1°C	
Controller Size (mm) Weight (kg)	510*360*240 16 Kg	510*360*240 16 Kg
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***Above parameter only for reference only. Could be custom made to user specifications.**

