EEB1 Series

1000W PWM Wind/Solar Hybrid Controller
Off-grid

Controller

Dump load

ENGELEC ENERGY
Intelligent manufacturing, Industry 5.0
Email:info@engelec.cn
www.engelecenergy.com
Quick quote: +86 13505876536

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.

※ Disel generator port is optional. Control the generator start and stop automatically

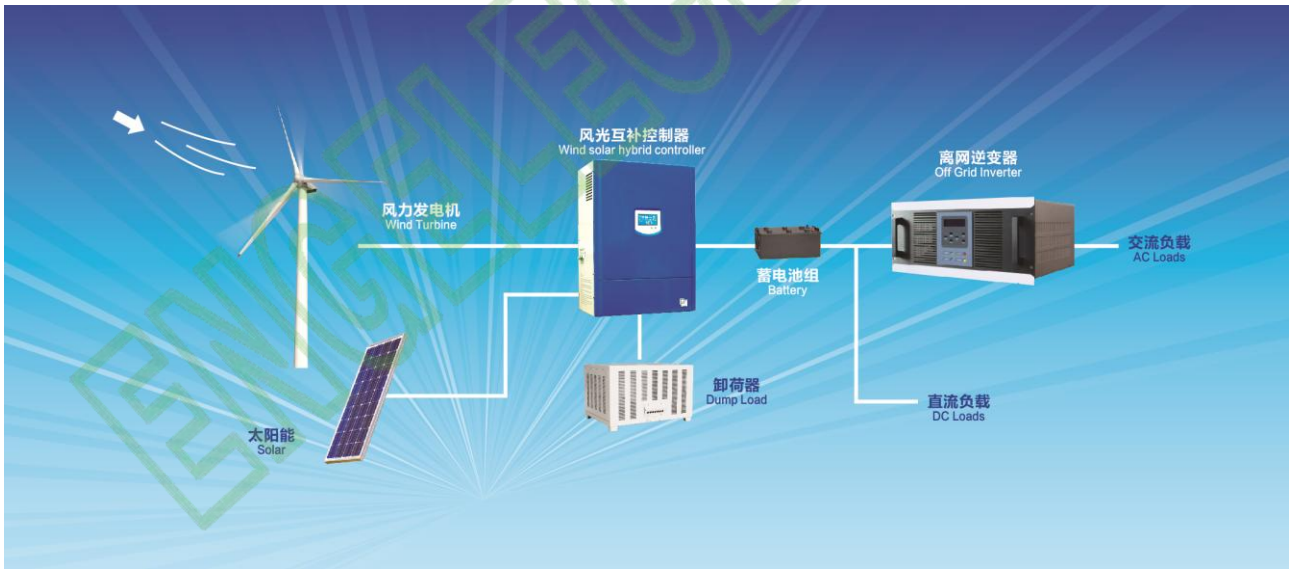
※ Adopt Modbus Communication protocol. Convenient to carry out the secondary development.

※ 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, furled empennage, mechanical brake, hydraulic brake, electromagnetism brake and other brake functions.

Connection Diagram:



Technical Parameters

Type	1KW-12Vdc	1KW-24Vdc	1KW-48Vdc
Wind turbine rated power	1KW	1KW	1KW
Wind turbine max. power	2KW	2KW	2KW
*Solar panel power	300Wp	300Wp	300Wp
Battery	12Vdc	24Vdc	48Vdc
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	>14Vdc	>29Vdc	>58Vdc
Wind turbine 3-phase dump load voltage	15±1Vdc	30±1Vdc	60±1Vdc
Wind turbine recharge voltage	13.5±1Vdc	27±1Vdc	54±1Vdc
* Solar control stop charging voltage	15±1Vdc	29±1Vdc	58±1Vdc
*Solar control recharge voltage	<14Vdc	<29Vdc	<58Vdc
*Diesel generator starting voltage	10±1Vdc	20±1Vdc	40±1Vdc
*Diesel generator off voltage	13.5±1Vdc	27±1Vdc	54±1Vdc
Self-provided battery connecting wire	>16 mm²	>8mm²	>6mm²
PWM fuse	100A	50A	25A
* 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)	510*360*240 17 Kg	510*360*240 17 Kg	510*360*240 17 Kg
Dump load Size (mm)　Weight (kg)	290*250*120 5 Kg	290*250*120 5 Kg	290*250*120 5 Kg

***Above parameter only for reference only. Could be custom made to user specifications.**

ENGELEC ENERGY
Intelligent manufacturing, Industry 5.0
Email:info@engelec.cn
www.engelecenergy.com
Quick quote: +86 13505876536

ENGELEC ENERGY
Intelligent manufacturing, Industry 5.0
Email:info@engelec.cn
www.engelecenergy.com
Quick quote: +86 13505876536