



## Product Overview

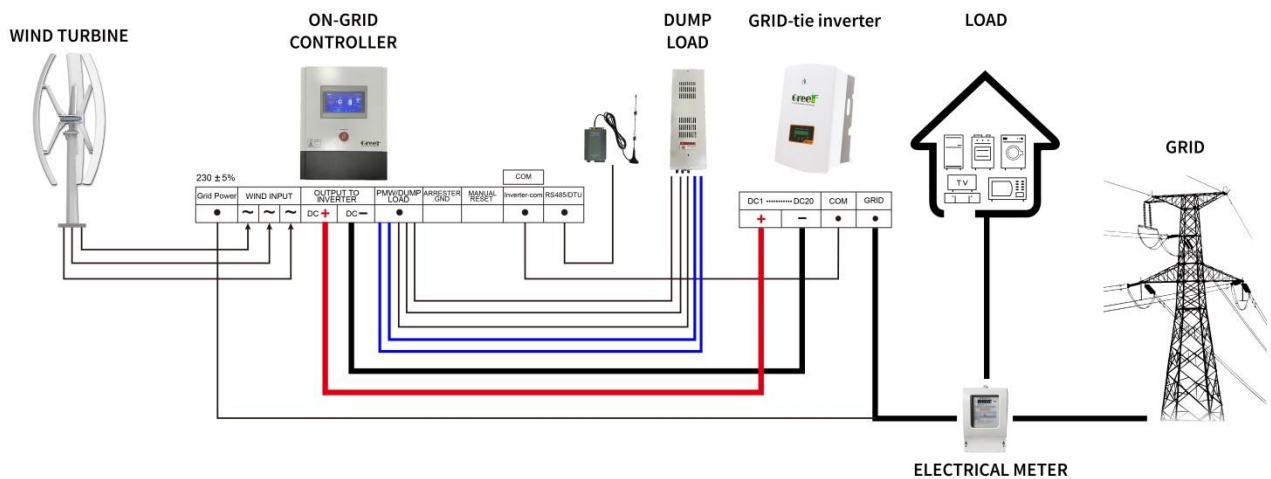
Grid-Tied Controller is technologically the most important component in wind generator on-grid systems, which convert Three AC current from wind turbine into DC current then send to the grid-tie inverter.

GT-PCTC series wind professional grid-tied controller which have Double safety control systems:

PWM constant voltage system and three-phase dump load brake system,

It can control Solis solar inverter working then let the solar inverter suitable for wind turbine working condition.

## ON-Grid Wind Turbine SYSTEM



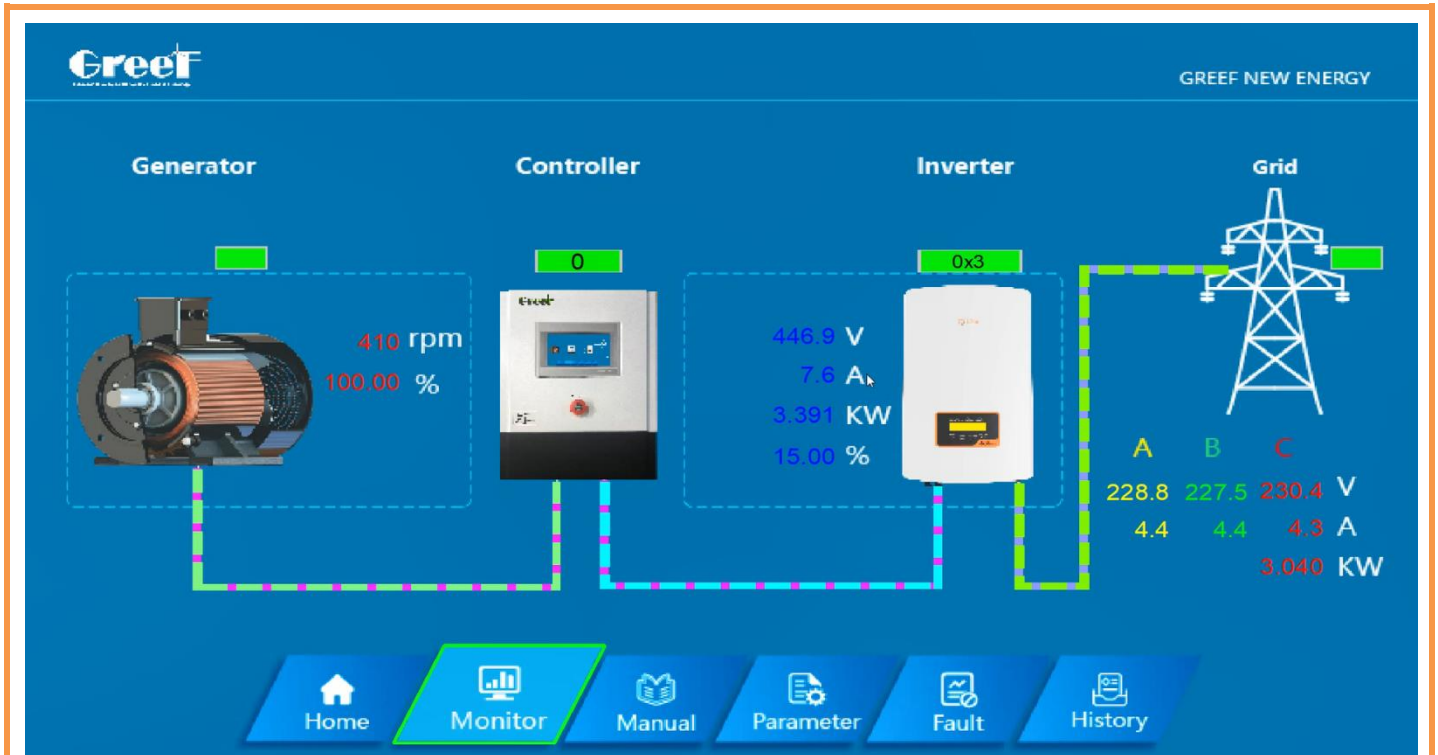
## Specifications

Type	GT-PCTC-1.5KW	GT-PCTC-2KW	GT-PCTC-3KW	GT-PCTC-5KW
Wind turbine rated power	1.5KW	2KW	3KW	5KW
Wind turbine rated voltage	AC220V-240V	AC220V-240V	AC220V-380V	AC380-450V
Function	Rectifier,Control,DC output			
Automatic protection function	Over voltage protection, Grid cut off protection, Regulated supply output, Arrester			
Manual function	Manual brake, Reset, Emergency switch			
Display mode	LCD Touch Screen			
Display content (larger one)	Generator speed(rpm),Input voltage (Vdc), Input current(Vac) ,Output power(kW), Grid voltage (Vac),Grid current(A), Power generate today(kWh),Power generate this month, Power generate last month, Power generate this year, Power generate last year,Power Curve setting.			
PWM constant voltage	≥400dc	≥400dc	≥400dc	≥700dc
Wind turbine 3-phase dump load voltage	450±5Vdc	450±5Vdc	450±5Vdc	750±5Vdc
3-phase dump load time-lapse	12-20 min	12-20 min	12-20 min	12-20 min
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			
Communication interface (optional)	RS485/USB/GPRS/WIFI/Ethernet			
Size of the controller (mm)	500*395*270	500*395*270	500*395*270	500*395*270
Controller Weight	20Kg	20Kg	22Kg	22Kg
Dump load Size (mm)	620*215*190	620*215*190	620*215*190	620*215*190
Dump load Weight	14Kg	14Kg	14Kg	30Kg

## Specifications

Type	GT-PCTC-10KW	GT-PCTC-20KW	GT-PCTC-30KW
Wind turbine rated power	10KW	20KW	30KW
Wind turbine rated voltage	AC380-520V		
Function	Rectifier,Control,DC output		
Automatic protection function	Over voltage protection, Grid cut off protection, Regulated supply output, Arrester		
Manual function	Manual brake, Reset, Emergency switch		
Display mode	LCD Touch Screen		
Display content (larger one)	Generator speed(rpm),Input voltage (Vdc), Input current(Vac) ,Output power(kW), Grid voltage (Vac),Grid current(A), Power generate today(kWh),Power generate this month, Power generate last month, Power generate this year, Power generate last year,Power Curve setting.		
PWM constant voltage	≥700dc	≥700dc	≥700dc
Wind turbine 3-phase dump load voltage	750±5Vdc	750±5Vdc	750±5Vdc
Wind turbine 3-phase dump load time-lapse	12-20 min	12-20 min	12-20 min
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		
Communication interface (optional)	RS485/USB/GPRS/WIFI/Ethernet		
Size of the controller (mm)	550*395*270	600*500*1200	600*500*1200
Controller Weight	25Kg	66Kg	68Kg
Dump load Size (mm)	690*520*270	690*530*520	710*890*590
Dump load Weight	45Kg	55Kg	55Kg

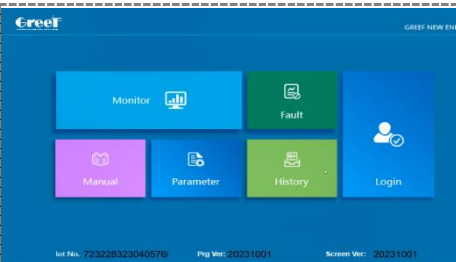
# Leading features



◆ Communication with solar inverter make it suitable for wind turbine



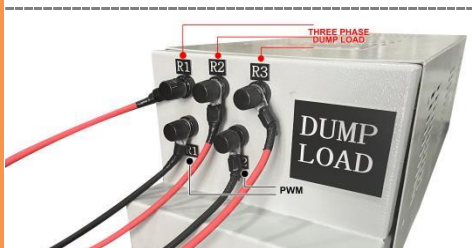
◆ Generator Speed measure function



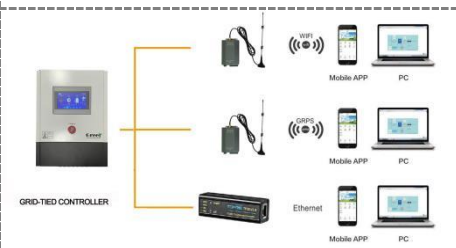
◆ Remotely monitoring and control function



◆ Speed vs Power power curve control function



◆ Double protection system: PWM + three-phase dump load brake Protection System



◆ RS485/GPRS/WIFI/Ethernet (optional) monitoring app available



◆ Wind speed measure function (optional)



### What problem does GT-PCTC controller solve ?

Compared with PV grid-tied inverters, small wind turbine grid-tied inverters market supply have following problem :

- ① Few professional small wind turbine grid-tied inverter factories
- ① Small wind turbine grid-tied inverters are several times more expensive than PV inverters
- ① Quality is unstable, no after-sale service
- ① Low efficiency
- ① No grid connection certification

GREEF GT-PCTC series controller can work together with SOLIS brand PV grid-tied inverter, track and control the grid-tied power all the time. User can setting the wind turbine working power curve by themselves on the screen according to the wind turbine performance. It can inspect the generator speed and according to the setting power curve speed VS power to let the inverter work accordingly.



### How does the protection systems working?

#### PWM Constant voltage + Three-phase dump load brake

- ① PWM constant voltage is control the wind turbine output not exceed 120% of the wind turbine rated power.
- ② If exceeding of PWM's capacity, it means the wind turbine is over speed, then the three-phase dump load system will brake the wind turbine automatically & immediately. After 10-20 minutes, the brake will release, then the wind turbine will re-start to generation power.
- ③ When meet strong wind, the controller can conduct constant voltage output to ensure the inverter safety running.
- ④ When grid-tied inverter disconnected, the controller can conduct constant voltage output and wait for inverter resumption.
- ⑤ When the grid is cut off, the three-phase dump load will automatically start to brake the wind turbine and let the inverter stop output to grid. When the grid recover, the controller will also recover the wind turbine.



### How about other functions ?

- ① **Surge protector:** Limit the transient over-voltage that breaks into the wind turbine's power line to a voltage range that the equipment can withstand, or discharge a powerful lightning current into the ground to protect the equipment from lightning strikes.
- ② **Emergency stop switch:** in case of emergency, press down the emergency stop button in the front panel to cut off all power supply of the controller and the wind turbine will immediately brake (three-phase dump load).
- ③ **Manual Brake switch:** To using this switch, the wind turbine will brake all the time. (three-phase dump load).



### What other optional function?

- ① **Modbus Communication protocol** is available. Convenient to carry out the secondary development.
- ② **RS485** is available. Adjusting the technical specification via RS485
- ③ **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 state. Both Android and IOS are compatible in Mobile.