

PowerHome

Grid Tie Inverter



User Manual

SOLAR GRID SERIES INVERTER



GTI10.5-30VDC 500W



WV22-50VDC 1000W

System Function

Directly connected to the solar panels (do not need to connect the battery)

Using precise Dynamic differential pressure type MPPT function, APL functions, the inverter automatically adjust the solar panels of maximum output power,simply connect the solar panel to the grid inverters. Do not need to connect the battery.

AC 0 angle with high precision auto-detection

AC phase angle of 0 through isolation amplifier then input to the MCU for high-precision detection and analysis. The phase shift rate is less than 1%, thus achieve high-precision with phase modulation AC output together.

Synchronous High-frequency Modulation

In the process of the grid, usually adapt the same phase angle in parallel. (ie, When the two-phase alternating current total is equal to 0.Use switch to combination the two AC fusion) and the product is rectified AC half-frequency AC to 100Hz first, then the machine use the high frequency current in the circuit and semi-100Hz frequency alternating current generated combination, to achieve high-frequency modulation.

Pure Sine Wave Output

Use SPWM directly to make pure sine wave output.

Power Automatically Locked (APL)

In different current fluctuations, we should use the MPPT function. When the MPPT function adjusted to the maximum power point, the product automatically powers locked in maximum power point , then made the output power more stable.

Maximum Power Point Tracking (MPPT)

Because the current intensity and the voltage changes at any time , if there is no power point tracking, there will be a lot of problems. In the past time , usually adopt a solar controller, but this product uses high -precision MPPT operation power, automatic and immediate adjust the solar panels output power at the maximum output point, then achieve a stable output purposes.

Automatically Adapt To Different Load Power Factor

Adapt to any of the power load.

Constant Current, Constant Power

This product is constant current, constant output power, without any overload, over-current phenomenon.

Automatically Shut Down When The Power Output Of a Fault

When the city power system is in failure, the inverter will automatically turn off the output.

Current Limit Protection

Current limit

Stack Multiple Machines

Multiple small power inverters in parallel can achieve large output power.

High-Frequency High Conversion Rate

Adapt high frequency converter, the output more efficient.

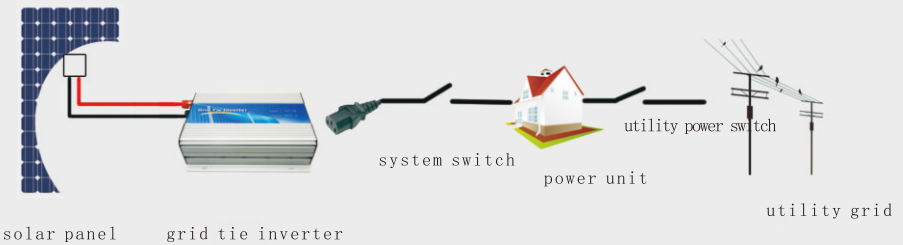
Date sheet

Grid-series models	200W	300W	500W	600W	800W	1000W
Recommend use solar panels	320W	420W	620W	720W	100W	1150W
DC Maximum Input Power	300W	400W	600W	700W	900W	1100W
DC maximum voltage	30.2VDC/50.2VDC					
DC voltage range (Recommend PV Vmpp)	10.5V~30VDC(RecommendPV Vmpp18V) 20-50VDC(Recommend PV Vmpp28-40V)					
AC output power	200W	300W	500W	600W	800W	1000W
Anti-voltage protection	Fuse					
AC standard voltage range	90V-140/180~260VAC					
AC frequency range	55Hz~63Hz/ 45Hz-53Hz					
Output current total harmonic distortion	THDIAC <5%					
Phase	<1%					
Islanding protection	VAC;f AC					
Output short circuit protection	Current-limiting					
Show	LED					
Installation	Wall hanging					
Cooling	Fan					
Standby Power	<2W					
Night Power	<1W					
Ambient temperature range	-25 ~60					
Humidity	0~99% (Indoor Type Design)					
Waterproof	Indoor Type Design					
Electromagnetic Compatibility	EN50081.part1 EN50082.part1					
Power System Disturbance	EN61000-3-2 EN60950-1					
Network test	DIN VDE 1026					

Packing and weight

N□W	1.1kg(200-300W)	1.3kg(500-600W)	2.1kg(800—1000W)
G□W	1.5kg(200-300W)	1.8kg(300-500W)	2.6kg(800—1000W)
Size (L x W x H)	16.4 x 15.5 x 5.3cm	21 x 16.5 x 5.3cm	31 x 16.5 x 5.5cm
Packing (L x W x H)CM	Outer box:40x31x27□6PCS□	Outer box:43x32x37□6PCS□	Outer box:43x41x27□4PCS□
G□W□Outer box□	8.7KG	11.5KG	11.0KG

Operating guide



System structure drawing

1、Face-plate instruction

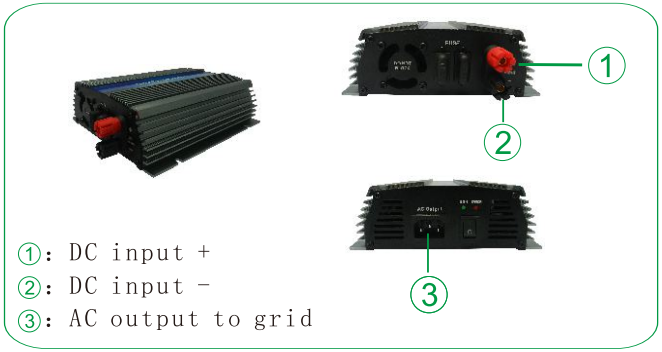


Figure 1

2、Connection of DC terminal

Connect the solar panels positive terminal to inverter's positive terminal, and negative to negative. And you must screw up the nut to avoid the bad contact. Show in figure 2:

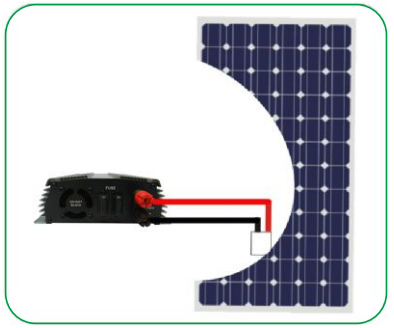


Figure 2

3、Connection of AC terminal

Before connect the inverter's AC cable to the socket, you must disconnect the utility power. Then put the AC cable which has holes terminal into the inverter's 3 feet port and the pin terminal to the socket. Please make sure both of the terminalare connect fastness to avoid bad contact. Show like figure 3:



Figure 3



Figure 4

4、Operation

After all connection, the inverter's green LED shows, it means the inverter start to work.

5、Several or many inverters used in parallel.

In order to achieve higher power, we can usethis inverter in stack. For example: 4 pcs of 300W grid tie inverter used in stack can a chieve 1200W. And the stacking number is unlimited . Show like figure 5.

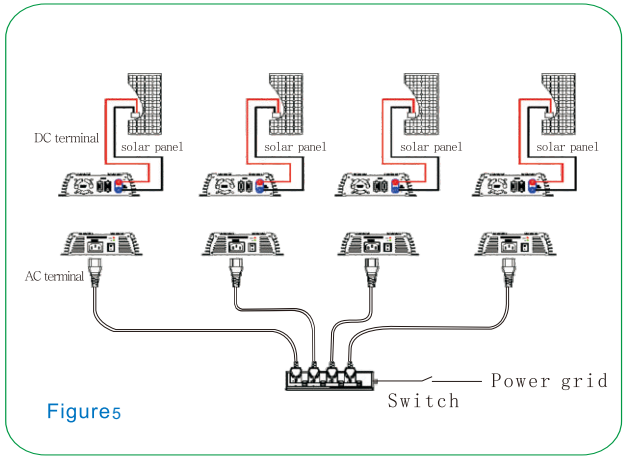


Figure5

Accessories for product

1 standard AC wire,

1 user manual.