SolarTorrent

1000W Grid Tie Power Inverter

1. Description：

- Directly connected to solar panel design（Without battery）
- Angle with high precision auto-detect if it was held 0 Total
- Step directly modulated high-frequency phase
- Pure sine wave output
- Solar luminosity power automatically adapt
- Automatic power locking
- Maximum Power Point Tracking(MPPT)
- Automatically adapt to different load power factor
- Constant current, constant-power design
- Power grid automatically shut down when the output is faulty
- Current limit protection
- Schmitt trigger SPWM Generator(Output Pure sine wave)
- Straight-line with the design
- Multiple stack(Use of multiple machines in parallel)
- Design of high frequency and high conversion rate

2. User Guide:

Installation & Connection

1.1 Red Terminal: to connect positive pole of DC; Black Terminal: to connect negative pole of DC.

AC Socket: to connect grid.

Switch: Power Switch, after the proper connecting, turn on, Inverter start working.

DC Input limits:

Operating Voltage range: 10.5V to 28V

Maximum input Voltage: 28V

Solar Panel: 30W minimum, only use PV panels with maximum power voltage at 17.5V.

Can ONLY connect panels in parallel. DO NOT connect them in series**!**

Wind Turbine: Rated output voltage 24VDC, Maximum voltage 28VDC

AC Output:

Grid Connection:

220V AC version: 170V-250V, 50Hz

110V AC version: 90V-140V, 60Hz

Island Protection: Automatically disconnect when the grid is tripped

Maximum quantity of Pure Sine-wave Inverters allowed on a main circuit: No limited

LED Indicators:

Red LED on: Input DC voltage is too high or low (less than 10.5V or more than 28V)

Red LED on: Over Heat protection once over 70℃，automatic restart after cooling down for about 2-10 minutes.

Red LED on: Grid blackout fault

Green LED Flashing: Output power in the state of regulation.

Green LED on continuously: Inverter works normally, constantly max. output power.

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Caution:

Please do install the inverter in a ventilated area to avoid over-heating

Clear out any flammable object around the installation

Recommend a maximum output DC input cable size of 4AWG or cables that can handle more than 50A.

Optimal length would be 8m or lower, longer cables will experience higher voltage drop.

Install in a low humidity and well-ventilated area. Remove all flammable objects.

Connect the inverter to a wall socket with the supplied AC Power Cord

Connect the Solar Panel, Battery or Wind Turbine's DC Supply cables to the DC input

Terminal of the inverter. Wind Turbine installations will require respective charge Controllers and dump loads.

3. Electrical Specifications:

Grid-inverter Type	500W	800W	1000W
Recommended Maximum PV Power	Ppv=720Wp	Ppv=1050Wp	Ppv=1250Wp
DC Maximum Input Power	PDC.max=600W	PDC.max=900W	PDC.max=1100W
DC Maximum Voltage	VpvDC30.2VDC		
PV MPPT DC Voltage Range	Vpv 10.5V~28VDC		
Peak Inverter Efficiency	ηmax>94%		
MPPT Efficiency	99%		
PV Maximum Input Current	Ipv.max30A	Ipv.max45A	Ipv.max65A
AC Rating Output Power	500W AC	800W AC	1000W AC
AC Maximum Output Power	550W AC	850W AC	1050W AC
Reverse Polarity Protection	Fuse		
AC Normal Voltage Range	90V-140/180~260VAC		
AC Frequency	45Hz53Hz/55Hz~63Hz		
Inverter Output Current Total Harmonic Distortion	THDIAC <5%		
Phaseshift	<1%		
Island Effect Protection	VAC;f AC		
Inverter Output Shorting Protection	Current Limiting		
Display	LCD and LED		
Standby Power Consumption	<8W		
Nighttime Power Consumption	<1W		
Ambient Temperature Range	-25 ℃~60℃		
Ambient Humidity	0~99%(Indoor Type Design)		
Waterproof	Indoor Type Design		
Eelectromagnetic Compatibility	EN50081.part1 EN50082.part1		
Power Network Disturbance	EN61000-3-2		
Power Network Detection	DIN VDE 126		

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4. Mechanical Specifications:

Weight	2.08kg/4.6lb
Dimension (L x W x H)	31 x 16.5 x5.8cm
Mounting	Wall Mount at base
AC Cable Length	1.8m
Cooling	Convection cooled with fan
Display	1 Red and 1 Green LED

1000W Gred Tie Power Inverter

Feature:

- Generates pure Sine Wave
- Automatic power adjustment
- Constant Power Output
- Low distortion output on all ranges
- Allow different Power factor from loads
- Compact and light weight design
- Maximum Power Point Tracking (MPPT) - optimize power output
- Plug and Play Design, simply plug into an outlet (GFI), no hard-wiring
- Stackable (connect in parallel for higher output)
- Aluminum enclosure will act as heat sink to help dissipate heat
- Simple and safe installation
- Island protection: Inverter will shut down during blackouts.
- Grid-Tied - sell green power directly back to the grid at a premium rate (during day's higher rate, depends on your utility companies)

Electrical Specifications - Output:

Mode	1000W
AC Output Power	1000W
Maximum AC Output Power	90~140V 190~260V
Frequency	45Hz~53Hz/55Hz~63Hz
Total Harmonic Distortion (THD)	<5%
Power Factor	0.93~0.99
Island Protection	Yes, inverter shuts down during blackout
Output Current waveform	Pure Sine Wave

Electrical Specifications - Input:

DC Input Voltage (Solar & Wind)	10.5V~28V
Peak inverter efficiency	86~94%
Over-current protection	105A
Reverse Polarity Protection	Fuse
Power consumption (Standby)	<1W
Stackable	Unlimited as long as it doesn't exceed main circuit amperage limit

Mechanical Specifications:

Operating temperature range	-20℃ - 65℃
Weight	2.3kg
Dimension (L x W x H)	30 x 16.5 x5.5cm
Mounting	Wall Mount at base
AC Cable Length	1.8m
Cooling	Convection cooled with fan
Display	1 Red and 1 Green LED

INSTALLATION

1. Install in a low humidity and well-ventilated area. Remove all flammable objects.
2. Connect the inverter to a wall socket with the supplied AC Power Cord
3. Connect the Solar Panel, Battery or Wind Turbine's DC Supply cables to the DC input Terminal of the inverter. Wind Turbine installations will require respective charge Controllers and dump loads

Grid-Tie Flowchart

Installation Diagram

Inverters are in either black or silver color