800W Grid micro inverter specification

1. Introduction

Stepup-Tech GTB series grid micro inverter, has high reliable performance, high efficiency, with MPPT function, meanwhile installation is simple, and it's very safe for user since multi protection functions are implemented. It's designed to directly connect to the power grid in home for application, a Wifi module is built in as well, which can achieve online monitoring by use together with smart life APP.

2. Features

- Wide range input voltage, inverter directly connect to solar panels, with accurate MPPT and APL function, can adjust the solar panel output power to the maximum to achieve high conversion efficiency based on light.
- AC 0 phase angle high precision detection, phase angle drift rate is less than 1% , thus realized the AC output combine with city power together.
- Synchronous high frequency modulation, in grid connected, parallel adjust output phase angle to the same as city power. (For example, when the phase difference between two AC is 0, merge two AC outputs), The inverter firstly rectify the 50Hz full-wave AC to the 100Hz half-wave AC, then modulate the 100Hz half-wave with high frequency wave to realize the high-frequency modulation.
- Pure sine wave output, by using SPWM to generate pure sine wave directly.
- Automatically adjustment for different power factor loads.
- Constant current and constant power output
- Automatically shuts down the output when power grid is fault.
- Can be parallel used to increase output power

3. Caution

- Before installation, please read the specification carefully and check whether the machine shell is damaged, and contact the supplier if you have any questions.
- Before installation, you have to prepare suitable length of AC cable, and connect the cable according to the color of the wire correctly if you want to extend cable (L Brown wire-Live, N Blue wire-natural, G yellow wire-ground).
- The inverter has to installed in the place with good shelter from rain and good ventilation to avoid inverter overheating, meanwhile remove inflammable and explosive materials around the machine.
- There is a grounding mark on the machine, please connect the ground wire correctly.
- Inverter input only can be connected to the solar panel, make sure the open circuit voltage (VOC) and working voltage (VMP) of the solar panel meet the requirements in the specification.
- Do not disassemble the machine, only qualified maintenance person can repair the machine.
- When machine is in working, please avoid children to touch and play, to avoid electric shock.
- Do not disassemble the machine when it’s in working, do not cut the AC and DC cable to avoid electric shock.
- Machine is a grid-connected power generator, only can work when connect to the power grid, when the power grid is fault it will stop work.
- When machine is fault, first time is to disconnect the AC cable, remove the fault machine, then connect the AC cable again.
- When machine is in working, the surface temperature is high, so do not touch the surface to avoid hurt, when the temperature is too high, the machine will went into the over-temperature protection, and it will automatically back to work when temperature is drop down.

4. Technical parameter

Item		Parameter	
Input DC	Recommended solar panel input power(W)	275-400W*2	
	Number of DC input connections(group)	MC4*2	
	Maximum DC input voltage	52V	
	Operating voltage range	20-50V	
	Start-up voltage	18V	
	MPPT tracking range	22-48V	
	MPPT tracking accuracy	>99.5%	
	Maximum DC input current	12A*2	
Output AC	Rated power output	750W	
	Maximum output power	800W	
	Rated output voltage	120VAC	230VAC
	Output voltage range	90-160VAC	190-260VAC
	Rated AC current	6.6A	3.47A
	Rated output frequency	60Hz	50Hz
	Output frequency range (Hz)	58.9-61.9Hz	47.5-50.5Hz
	Power factor	>0.99	>0.99
	THD	<5%	<5%
	Maximum number of branch circuit connections	5 sets	10 sets
Efficiency	Maximum conversion efficiency	94%	
	CEC efficiency	92%	
	Night losses	<80mW	
Protection	Over/under voltage protection	Yes	
	Over/under frequency protection	Yes	
	Anti-islanding protection	Yes	
	Over current protection	Yes	
	Over load protection	Yes	
	Over temperature protection	Yes	
	Protection grad	IP65	
Number of indicator		Working state LED 1pc，at front side. WiFi signal LED 1pc，at DC input side.	
Communication mode		Wifi/2.4G	
Weight		1.85kg	
Size (LxWxH)		31x20x3.8cm	

5. Environment

Item	Parameter
Work temperature	-40℃-+65℃
Storage temperature	-40℃-+85℃
Humidity	≤95%
Altitude	≤2000m
Cooling method	Natural cold
Place	Indoor and outdoor（Shelter from rain）

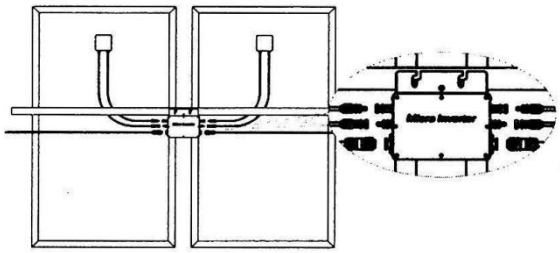
6. Safety and EMC

Item		Requirement	Notes
Safety，EMC standard		EN61000-3-2, EN61000-3-3, EN62109-1/-2. EN55032, EN55035, EN50438	
Hi-pot	Input-Ground	500Vdc	1 minute, leakage current≤10mA, no break down and no spark.
	Output-Ground	1500Vac	
	Input-Output	1500Vac	
Insulation resistance	Input-Shell	≥100MΩ@500Vdc	
	Output-Shell	≥100MΩ@500Vac	
	Input-Output	≥100MΩ@500Vdc	

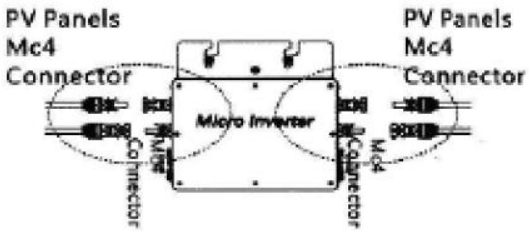
7. Picture

8. Connection

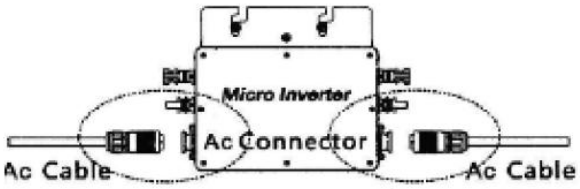
Step 1. Install and fix the inverter on the supporter of the solar panel with the screws, as shown in below.

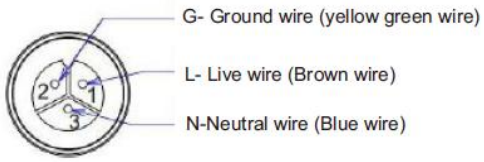


Step 2. Connect corresponding DC poles of PV into inverter input, as shown in below.



Step 3. Open the cover of the AC output socket on inverter, plug AC cable to the AC socket, as shown in below.



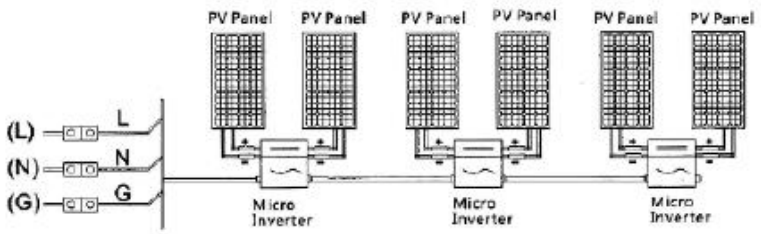


Step 4. Connect the AC cable to the AC main cable.

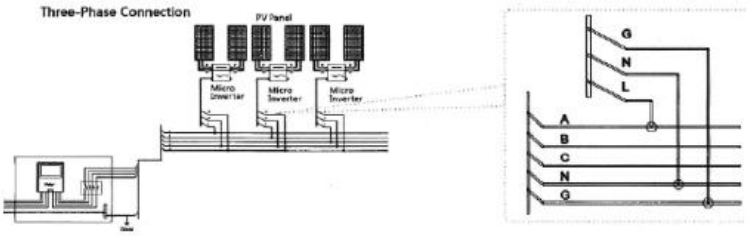
Step 5. Repeat steps 1 to 3, and install all inverters in parallel.

Step 6. Connect the AC cable to the power grid in your home to start your green energy life.

Single phase connection



Three phase connection



9. Accessories

Maintenance card 1copy，user’s manual 1copy，screw for installation 1bag，AC cable 1pc.

10. Package information

Single box for product，put it into the carton