

## G100 declaration of conformance

### Type test detail

**Manufacturer:** Shenzhen Growatt New Energy Technology CO.,LTD

4-13/F, Building A, Sino-German(Europe) Industrial Park, Hangcheng Ave, Guxing Community, Xixiang Subdistrict, Bao'an District, Shenzhen, China.

**Product:** Hybrid inverter.

**Model:** MIN 2500TL-XE, MIN 3000TL-XE, MIN 3600TL-XE, MIN 4200TL-XE, MIN 4600TL-XE, MIN 5000TL-XE, MIN 6000TL-XE.

### Use in accordance with regulations:

Technical Guidance for Customer Export Limiting Schemes G100 for photovoltaic systems with a three-phase parallel coupling via an inverter in the public mains supply.

### Applied rules and standards :

The result according to G100 engineering recommendation.

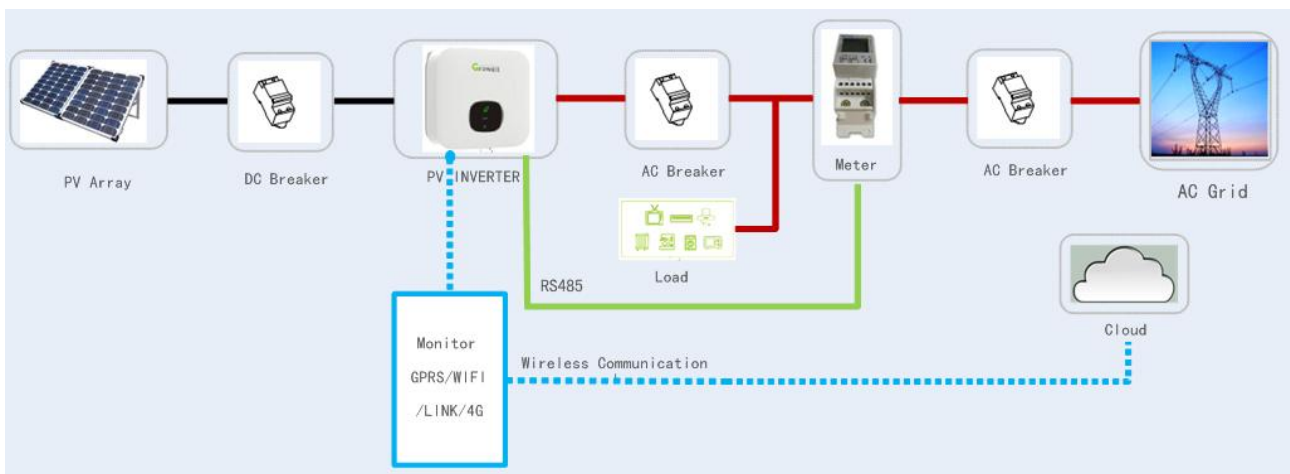
The safety concept of an aforementioned representative product complies at the time of issue of this certificate of valid safety specifications for the specified use in accordance with G100 recommendations.

Compliant with BSEN 61000-3-2

<b>Signature</b>	<b>Approved by</b>	<b>Place and Date</b>
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<p>Feng Zhu</p>		<p>Shenzhen. PRC</p> <p>2021-08-26</p>
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### System Connecton Diagram



### 1. Setting Protection Test

Requirement	Result	Note
<p>The settings is password protected, and cannot be changed by anyone other than got written agreement of the DNO;</p>	<p><b>Pass</b></p>	

### 2. CT Fail Safe Test

Method: Set 50% export limit, implement the test before start or in running

Criteria: Fall time is less than 5s, the inverter's output active power is less than set

limit. After fail safe test, disconnect AC, the reconnect time delay is fault reconnect time.

No	Component	test	Active Power	Response Time	Fall Time	Reconnect time	Pass/Fail
1	Power Monitoring Unit (PMU)	Remove power supply to PMU	3005W	2S	2S	42S	Pass
		Remove CT	3025W	2S	2S	42S	Pass
2	Control Unit (CU)	Remove power supply to any CU	NA	NA	NA	NA	NA
3	Generator Interface units (GIU)	Remove power supply to all GIUs	NA	NA	NA	NA	NA
4	Demand Control Unit (DCU)	Remove power supply to all DCUs	NA	NA	NA	NA	NA
5	Network hub /	Remove	NA	NA	NA	NA	NA

	switches	power supply					
<b>6</b>	<b>PMU → CU</b>  communication  cable	Unplug cable	<b>3015W</b>	<b>2S</b>	<b>2S</b>	<b>42S</b>	<b>Pass</b>
<b>7</b>	<b>CU → GIU</b>  communication  cable	Unplug cable  (repeat  where  additional  <b>GIU</b>  units)	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>8</b>	<b>GIU →</b>  Generator  communication  cable	Unplug cable  (repeat  where  additional  <b>GIU</b>  units)	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>9</b>	<b>CU → DCU</b>  communication  cable	Unplug cable  (repeat  where  additional  <b>DCU</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

		units)					
10	DCU → load  communication  cable	Unplug cable  (repeat  where  additional  DCU  units)	NA	NA	NA	NA	NA
11	Controlled  Load(s)	Turn off load  (e.g.  activate  thermostat)	NA	NA	NA	NA	NA

### 3. Power Limit Test

Method: Set export limit, implement the test before start, then start the inverter.

Criteria: fall time is less than 5s, the inverter's export active power is less than limit power.

0%export limit [% Inverter Rating]					
Input  Load      Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	-33W/0.56S/1.42S	-43W/0.73S/1.81S	-50W/0.75S/3.21S	-36W/0.68S/1.23S

[% Inverter Rating]	25%	NA	-85W/0.62S/1.84S	-128W/0.69S/2.35S	-74W/0.55S/3.12S
	50%	NA	NA	-132W/0.88S/2.51S	-63W/0.30S/2.65S
	75%	NA	NA	NA	-28W/0.37S/2.43S

25%export limit [% Inverter Rating]						
Load [% Inverter Rating]	Export/Time	Input	Input supply [% Inverter Rating]			
		25%	50%	75%	100%	
Load	0%	NA	-1568W/0.15S/3.53S	-1540W/0.15S/3.28S	-1565W/0.15S/2.14S	
	25%	NA	NA	-1562W/0.15S/3.72S	-1575W/0.15S/2.88S	
	50%	NA	NA	NA	-1521W/0.15S/3.55S	
	75%	NA	NA	NA	NA	

50%export limit [% Inverter Rating]						
Load [% Inverter Rating]	Export/Time	Input	Input supply [% Inverter Rating]			
		25%	50%	75%	100%	
Load	0%	NA	NA	-3023W/0.15S/3.36S	-3033W/0.15S/3.22S	
	25%	NA	NA	NA	-3054W/0.15S/3.58S	
	50%	NA	NA	NA	NA	
	75%	NA	NA	NA	NA	

75%export limit [% Inverter Rating]					
Load Export/Time		Input	Input supply [% Inverter Rating]		
		25%	50%	75%	100%
Load	0%	NA	NA	NA	-4556W/0.15S/3.67S
[% Inverter Rating]	25%	NA	NA	NA	NA
	50%	NA	NA	NA	NA
	75%	NA	NA	NA	NA

#### 4. decreasing Load test

Method: Set export limit, the load be decreased from 100% of the inverter rating.

Criteria: response time is less than 1s, fall time is less than 5s, the inverter's export active power is less than Agreed limit.

0%export limit [% Inverter Rating]					
Load Export/Time		Input	Input supply [% Inverter Rating]		
		100%	75%	50%	25%
Load	75%	-27W/0.65S/3.42	NA	NA	NA
[% Inverter Rating]	50%	S	-56W/0.88S/1.27	NA	NA
		S	S		

	25%	-82W/0.52S/2.66 S	-75W/0.62S/2.46 S	-56W/0.48S/2.45	NA
	0%	-42W/0.92S/3.45 S	-56W/0.7S/3.24S	-105W/0.54S/3.67 S	-108W/0.75S/3.36 S

25%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		100%	75%	50%	25%
Load [% Inverter Rating]	75%	NA	NA	NA	NA
	50%	-1542W/0.79S/2.73S	NA	NA	NA
	25%	-1535W/0.66S/2.46S	-1585W/0.57S/3.34S	NA	NA
	0%	-1579W/0.75S/3.13S	-1587W/0.85S/3.28S	-1542W/0.76S/1.46S	NA

50%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		100%	75%	50%	25%
Load [% Inverter]	75%	NA	NA	NA	NA
	50%	NA	NA	NA	NA
	25%	-3065W/0.46S/2.57S	NA	NA	NA



Rating]	0%	-3027W/0.68S/2.34S	-3000W/0.52S/2.67S	NA	NA
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75%export limit [% Inverter Rating]					
Load	Input	Input supply [% Inverter Rating]			
	Export/Time	100%	75%	50%	25%
Load	75%	NA	NA	NA	NA
[%	50%	NA	NA	NA	NA
Inverter	25%	NA	NA	NA	NA
Rating]	0%	-4526W/0.37S/1.64S	NA	NA	NA

## Comments

The test result is based on MIN 6000TL-XE. All the series of inverters electrical character are the same. So the test result can cover all series.