

## G100 declaration of conformance

### Type test detail

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

No.28 Guangming Road, Shiyao Street, Bao'an District, Shenzhen,  
P.R.China

**Product:** Hybrid inverter.

**Model:** Growatt 17000TL3-S/SE, Growatt 20000TL3-S/SE, Growatt 25000TL3-S/SE,

Growatt 30000TL3-S/SE, Growatt 33000TL3-S/SE, Growatt 40000TL3-S/SE/NS/NSE,

Growatt 50000TL3-S/NS

### **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.

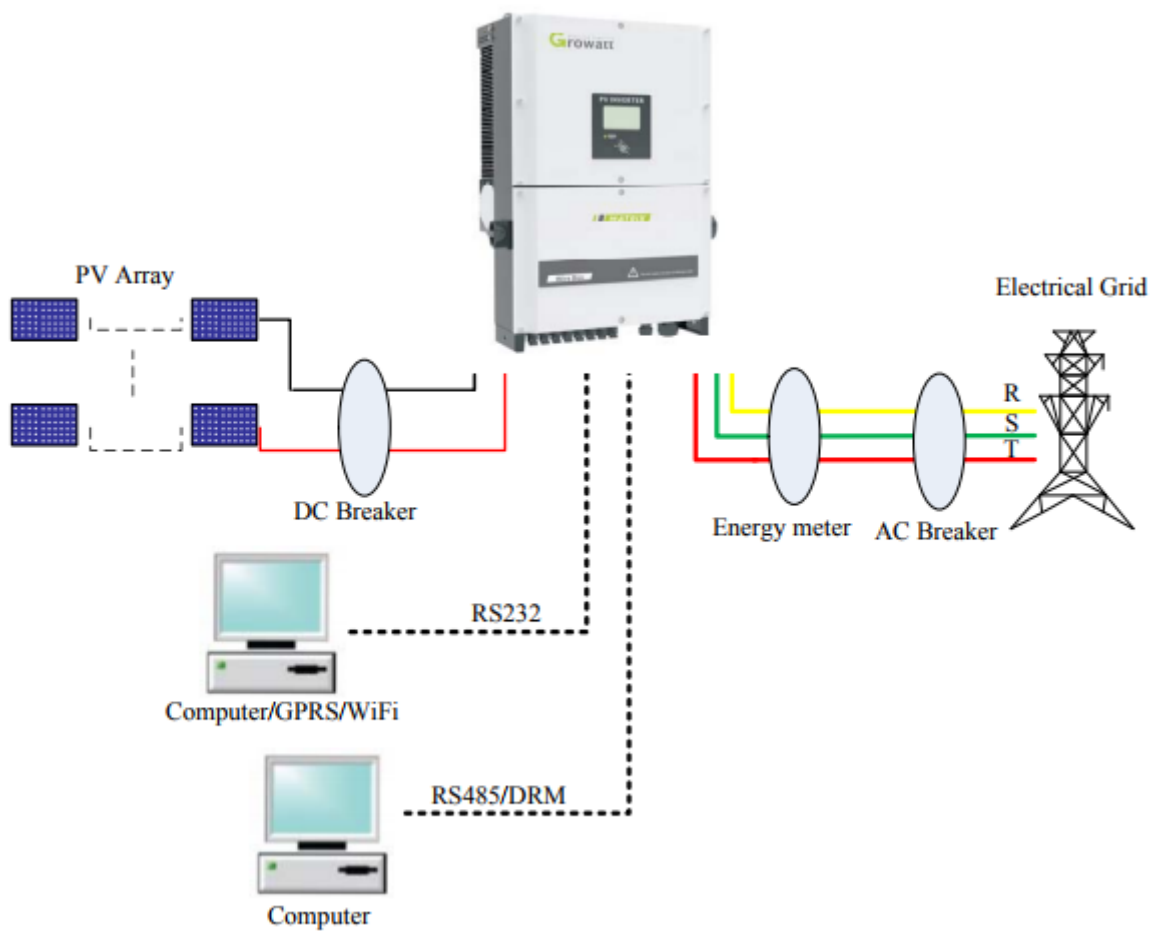
The safety concept of an aforementioned representative product complies at the time of issue of this certificate of valid safety specifications for the specified use in accordance with G100 recommendations.

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>2019-12-23</p>
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### System Connecton Diagram



### 1. Setting Protection Test

Requirement	Result	Note
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The settings is password protected, and cannot be changed by anyone other than got written agreement of the DNO;	<b>Pass</b>	
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## 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	25008W	2S	2S	45S	Pass
		Remove CT	25030W	2S	2S	45S	Pass
2	Control Unit (CU)	Remove power supply to any CU	NA	NA	NA	NA	NA
3	Generator Interface units	Remove power supply	NA	NA	NA	NA	NA

	(GIU)	to all GIUs					
4	Demand Control Unit (DCU)	Remove power supply to all DCUs	NA	NA	NA	NA	NA
5	Network hub / switches	Remove power supply	NA	NA	NA	NA	NA
6	PMU → CU communication cable	Unplug cable	25017W	2S	2S	45S	Pass
7	CU → GIU communication cable	Unplug cable (repeat where additional GIU units)	NA	NA	NA	NA	NA
8	GIU → Generator communication cable	Unplug cable (repeat where additional	NA	NA	NA	NA	NA

		GIU units)					
9	CU → DCU  communication  cable	Unplug cable  (repeat  where  additional  DCU  units)	NA	NA	NA	NA	NA
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]					
Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	-32W/0.46S/1.52S	-53W/0.66S/1.76S	-66W/0.72S/3.27S	-63W/0.66S/1.54S
[%	25%	NA	-108W/0.48S/1.82S	-154W/0.64S/2.42S	-36W/0.74S/3.12S
Inverter	50%	NA	NA	-132W/0.64S/2.14S	-25W/0.48S/2.25S
Rating]	75%	NA	NA	NA	-31W/0.28S/2.32S

25%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	NA	-12553W/0.43S/3.5S	-12550W/0.34S/3.42S	-12545W/0.54S/2.04S
[%	25%	NA	NA	-12598W/0.52S/3.52S	-12589W/0.34S/2.64S
Inverter	50%	NA	NA	NA	-12503W/0.24S/3.58S
Rating]	75%	NA	NA	NA	NA

50%export limit [% Inverter Rating]					
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Input Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	NA	NA	-25043W/0.57S/3.46S	-25040W/0.24S/3.14S
[% Inverter Rating]	25%	NA	NA	NA	-25083W/0.51S/3.28S
	50%	NA	NA	NA	NA
	75%	NA	NA	NA	NA

75%export limit [% Inverter Rating]					
Input Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	NA	NA	NA	-37596W/0.54S/3.68S
[% 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%
Load [% Inverter Rating]	75%	-56W/0.6S/3.42S	NA	NA	NA
	50%	-24W/0.25S/2.14 S	-71W/0.84S/1.3S	NA	NA
	25%	-98W/0.72S/2.84 S	-83W/0.6S/2.52S	-98W/0.44S/2.34	NA
	0%	-49W/0.9S/3.08S	-72W/0.65S/3.12 S	-123W/0.68S/3.8 S	-101W/0.78S/3.22 S

25%export limit [% Inverter Rating]					
Load Export/Time		Input	Input supply [% Inverter Rating]		
			100%	75%	50%
Load [% Inverter Rating]	75%	NA	NA	NA	NA
	50%	-12572W/0.54S/2.56S	NA	NA	NA
	25%	-12506W/0.65S/2.58S	-12581W/0.58S/3.04S	NA	NA
	0%	-12568W/0.78S/3.16S	-12590W/0.66S/3.38S	-12582W/0.54S/1.98S	NA



50%export limit [% Inverter Rating]					
Load Export/Time		Input	Input supply [% Inverter Rating]		
			100%	75%	50%
Load	75%	NA	NA	NA	NA
[%	50%	NA	NA	NA	NA
Inverter	25%	-25074W/0.42S/2.52S	NA	NA	NA
Rating]	0%	-25064W/0.62S/2.66S	-25008W/0.56S/2.62S	NA	NA

75%export limit [% Inverter Rating]					
Load Export/Time		Input	Input supply [% Inverter Rating]		
			100%	75%	50%
Load	75%	NA	NA	NA	NA
[%	50%	NA	NA	NA	NA
Inverter	25%	NA	NA	NA	NA
Rating]	0%	-37556W/0.57S/1.96S	NA	NA	NA

## Comments

The test result is based on Growatt 50000TL3-S. All the series of inverters electrical character are the same. So the test result can cover all series.