

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: MIC 750TL-X, MIC 1000TL-X, MIC 1500TL-X, MIC 2000TL-X, MIC 2500TL-X, MIC 3000TL-X, MIC 3300TL-X.

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.

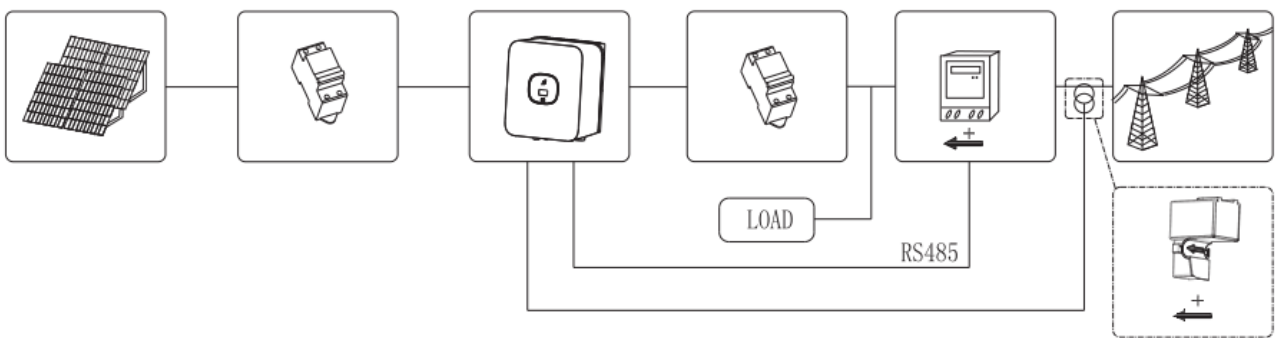
The safety concept of an aforementioned representative product complies at the time of issue of this certificate of valid safety specifications for the specified use in accordance with G100 recommendations.

Compliant with BSEN 61000-3-2

Signature	Approved by	Place and Date
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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>Pass</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	1656W	2S	2S	42S	Pass
		Remove CT	1668W	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 / switches	Remove power supply	NA	NA	NA	NA	NA

6	PMU → CU communication cable	Unplug cable	1658W	2S	2S	42S	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 GIU units)	NA	NA	NA	NA	NA
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%	-26W/0.56S/1.24S	-36W/0.79S/1.68S	-46W/0.71S/3.25S	-32W/0.38S/1.66S
[%	25%	NA	-40W/0.64S/1.53S	-45W/0.59S/2.35S	-48W/0.65S/2.98S

Inverter	50%	NA	NA	-38W/0.98S/2.32S	-48W/0.35S/2.75S
Rating]	75%	NA	NA	NA	-40W/0.48S/2.53S

25%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load [% Inverter Rating]	0%	NA	-855W/0.15S/3.53S	-836W/0.15S/3.48S	-810W/0.15S/2.44S
	25%	NA	NA	-843W/0.15S/3.52S	-818W/0.15S/2.72S
	50%	NA	NA	NA	-842W/0.15S/3.35S
	75%	NA	NA	NA	NA

50%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load [% Inverter Rating]	0%	NA	NA	-1632W/0.15S/3.72S	-1665W/0.15S/3.24S
	25%	NA	NA	NA	-1643W/0.15S/3.06S
	50%	NA	NA	NA	NA
	75%	NA	NA	NA	NA

75%export limit [% Inverter Rating]					
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Load Export/Time		Input supply [% Inverter Rating]			
		25%	50%	75%	100%
Load	0%	NA	NA	NA	-2488W/0.15S/3.48S
[% 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 supply [% Inverter Rating]			
		100%	75%	50%	25%
Load [% Inverter Rating]	75%	-15W/0.43S/3.16 S	NA	NA	NA
	50%	-26W/0.63S/2.65 S	-32W/0.48S/1.89 S	NA	NA
	25%	-30W/0.56S/2.49	-45W/0.68S/2.63	-36W/0.75S/2.46	NA

		S	S		
	0%	-26W/0.92S/3.15	-31W/0.73S/3.85	-41W/0.82S/3.26	-32W/0.38S/3.46
		S	S	S	S

25%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		100%	75%	50%	25%
Load	75%	NA	NA	NA	NA
[%	50%	-816W/0.48S/2.14S	NA	NA	NA
Inverter	25%	-846W/0.58S/2.44S	-805W/0.81S/3.43S	NA	NA
Rating]	0%	-835W/0.48S/3.27S	-853W/0.65S/3.44S	-830W/0.48S/2.83S	NA

50%export limit [% Inverter Rating]					
Load Export/Time		Input supply [% Inverter Rating]			
		100%	75%	50%	25%
Load	75%	NA	NA	NA	NA
[%	50%	NA	NA	NA	NA
Inverter	25%	-1680W/0.68S/2.38S	NA	NA	NA
Rating]	0%	-1664W/0.32S/2.51S	-1677W/0.28S/2.41S	NA	NA

75%export limit [% Inverter Rating]					
Load	Input	Input supply [% Inverter Rating]			
	Export/Time	100%	75%	50%	25%
Load [% Inverter Rating]	75%	NA	NA	NA	NA
	50%	NA	NA	NA	NA
	25%	NA	NA	NA	NA
	0%	-2496W/0.47S/2.38S	NA	NA	NA

Comments

The test result is based on MIC 3300TL-X. All the series of inverters electrical character are the same. So the test result can cover all series.