

Certificate G83/1-1

Engineering Recommendation

Manufacturer: Ginlong(Ningbo) Technologies Co.,Ltd
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Country: China
Test house at: Ginlong Technologies

Type reference:

Model	Max. AC Power	Rated AC Power	Max. Output Current
Solis-6K	6600W	6000W	10.5A
Solis-10K	11000W	10000W	16A

The results of the G83/1-1 tests are summarized in this certificate. Ginlong declares hereby that all units shipped to the UK comply with the specifications and parameters defined in G83/1-1 engineering recommendation. These settings cannot be changed by installer, user or by anyone other than Ginlong.

Test details

- Harmonic current emissions according to BS EN 61000-3-2A
- Voltage fluctuations and flicker according to BS EN 61000-3-3A
- DC injection / Power factor
- Under / Over frequency tests
- Under / Over voltage tests
- Loss of mains test
- Reconnection time

Manufacturer Stamp

宁波锦浪新能源科技有限公司
NINGBO GINLONG TECHNOLOGIES CO., LTD.

Ginlong Technologies
Ningbo, 16.Dec.2014

Zhangkun

Zhangkun
(Safety Engineer)

Test Report

Power quality

Harmonic current emissions as per BS EN 61000-3-2A								
Harmonic	2nd	3rd	5th	7th	9th	11th	13th	15th ≤ n ≤ 39th
Limit(A)	1.08	2.3	1.14	0.77	0.4	0.33	0.21	0.15 x (15/n)
Test value(A)	0.044	0.32	0.38	0.15	0.09	0.07	0.05	<limits BS EN 61000-3-2A

Voltage Fluctuations and Flicker as per BS EN 61000-3-3A				
	Starting	Stopping	Running	
Limit	4%	4%	Pst = 1.0	Plt = 0.65
Test value	< 1.0%	< 1.0%	0.12	0.11

	DC injection			Power factor		
G83/1-1 Limit	20mA, tested at three levels			0.95 lagging...0.95 leading		
Test level	10%	55%	100%	212 V	230 V	248 V
Test value	12.7mA	13.9mA	14.4mA	0.998	0.999	0.998

Under / Over frequency test

	Under frequency		Over frequency	
Parameter	Frequency(Hz)	Time(s)	Frequency(Hz)	Time(s)
G83/1-1 Limit	47	0.5	50.5	0.5
Actual setting	47	0.4	50.5	0.4
Trip value	47	0.38	50.47	0.42

Under / Over voltage test

	Under voltage		Over voltage	
Parameter	Voltage(V)	Time(s)	Voltage(V)	Time(s)
G83/1-1 Limit	207	1.5	264	1.5
Actual setting	207	1.4	264	1.4
Trip value	206.3	1.34	263.5	1.36

Loss of mains test

Method used	Rate of change of frequency		
Output power level	10%	55%	100%
G83/1-1 Limit	500ms	500ms	500ms
Trip value	308ms	257ms	268ms

Reconnection time

	Under/ Over voltage	Under/Over frequency	Loss of mains
Minimum value	180s	180s	180s
Actual setting	180s	180s	180s
Recorded value	182s	182s	182s

Fault level contribution

As SSEGs (small-scale embedded generators) for PV systems are inverter-connected, they are deemed to automatically comply with regulations and no further tests are required.

Self monitoring – solid state switching

Not applicable as electro-mechanical relays are used.

Comments

Test result is based on Solis-10K. Solis-6K is the same with Solis-10K. The test result can refer to Solis-10K.