

## Declaration of Conformity to EN50549

### We

**Company name:** Shenzhen Sinexcel Electric Co., Ltd.  
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**declare that the DoC is issued under our sole responsibility and belongs to the following product:**

**Product:** Hybrid Inverter  
**Model(s)** PWG2-50K-EX、PWG2-100K-EX  
**Description:** Nominal output power: 50000 W、100000W  
Rated voltage: 400 V  
Grid voltage range: 340~ 460 Vac  
Max. charge current: 150 A、300A  
Rated frequency: 50/60 Hz

**Object of the declaration described above is in conformity with EN 50549-1:2019, Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks.**


### Notified body:

Shenzhen Sinexcel Electric Co., Ltd.

### Singed for and on behalf of:

ShenZhen  
Place of issue

April, 10, 2020  
Date of issue

  
Name, signature

## TEST Results

### Power quality

Harmonic current emissions as per EN 61000-3-12								
Harmonic Order n	2nd	3rd	5th	7th	9th	11th	13th	15th ...
EN 61000-3-12 Limit (%)	/	21.6	10.7	7.2	3.8	3.1	2	16/h
Test value(phase R) (%)	0.19 22	0.7169	2.4191	1.5006	0.0655	0.6139	0.4196	< limit
Test value(phase S) (%)	0.28 45	0.9469	2.5324	1.4813	0.0481	0.5606	0.2701	< limit
Test value(phase T) (%)	0.38 86	0.3446	2.3407	1.5176	0.0139	0.5288	0.3504	< limit

Voltage fluctuations and flicker as per EN 61000-3-11						
	starting		stopping		running (at rated power)	
EN 61000-3-11 Limit	d c =3.3%	d max =4%	d c =3.3%	d max =4%	Pst = 1.0	Plt = 0.65
Test value	A:0.27 B: 0.25 C:0.91	A: 1.36 B: 0.97 C: 1.40	A:0.27 B: 0.25 C:0.91	A: 1.36 B: 0.97 C: 1.40	A:0.43 B:0.25 C:0.33	A:0.42 B:0.24 C:0.32

Power factor			
EN 50438 Limit	0.9 lag - 0.9 lead		
Test level (AC voltage)	210 V	230V	250 V
Test value (at rated power)	0.999	0.999	0.999

### Grid monitoring

<b>Under / Over Frequency Tests</b>				
	Under Frequency		Over Frequency	
Parameter	Frequency	Disconnection time	Frequency	Disconnection time
EN 50438 Limit	47.5Hz	500ms	51.5Hz	500ms
Actual setting	47.5Hz	500 ms	51.5Hz	500 ms
Trip value (test result)	47.46Hz	580ms	51.55Hz	573ms

<b>Over /Under Voltage Tests</b>				
	Under Voltage		Over Voltage	
Parameter	Voltage	Disconnection time	Voltage	Disconnection time
EN 50438 Limit	184V	3000ms	276V	1500 ms
Actual setting	184V	3000 ms	276V	1500 ms
Trip value (test result)	183.2V	3060 ms	276.9V	1544 ms

<b>LoM test</b>			
Output power level	Min (33%)	Medium (66%)	Max (100%)
Trip setting clearance time	2s	2s	2s
Trip value clearance time	0.326s	0.446s	0.576s

Indicative values are shown for minimum, medium and maximum power levels. —

## Type testing of a micro-generator

<b>Operating Range</b>				
Test sequence	Voltage	Frequency	Output power	Primary power source
Test 1	<b>195.03V</b>	<b>47.55Hz</b>	<b>93095W</b>	DC source
Test 2	<b>195.06V</b>	<b>48.50Hz</b>	<b>93115W</b>	DC source

Test 3	<b>252.64V</b>	<b>51.00Hz</b>	<b>100044W</b>	DC source
Test 4	<b>252.62V</b>	<b>51.45Hz</b>	<b>100059W</b>	DC source

<b>Active power at under-frequency</b>			
Test sequence	Output Power	Frequency	Primary power source
Test a)	<b>99779W</b>	<b>50.00Hz</b>	DC source
Test b)	<b>99805W</b>	<b>49.50Hz</b>	DC source
Test c)	/	/	/

<b>Power response to over-frequency</b>				
Test sequence at power level >80%	Out Power	Frequency	Primary Power source	Power gradient
Step a)	<b>99733W</b>	<b>50.00Hz</b>	DC source	<b>40%Pm/Hz</b>
Step b)	<b>98334W</b>	<b>50.25 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step c)	<b>80652W</b>	<b>50.70 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step d)	<b>62750W</b>	<b>51.15Hz</b>	DC source	<b>40%Pm/Hz</b>
Step e)	<b>79666W</b>	<b>50.70 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step f)	<b>98047W</b>	<b>50.25Hz</b>	DC source	<b>40%Pm/Hz</b>
Step g)	<b>100082W</b>	<b>50.00Hz</b>	DC source	<b>40%Pm/Hz</b>

Test sequence at power level 40%-60%	Out Power	Frequency	Primary Power source	Power gradient



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Step a)	<b>49789W</b>	<b>50.00Hz</b>	DC source	<b>40%Pm/Hz</b>
Step b)	<b>48367W</b>	<b>50.25 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step c)	<b>30352W</b>	<b>50.70 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step d)	<b>11896W</b>	<b>51.45Hz</b>	DC source	<b>40%Pm/Hz</b>
Step e)	<b>29945W</b>	<b>50.70 Hz</b>	DC source	<b>40%Pm/Hz</b>
Step f)	<b>48347W</b>	<b>50.25Hz</b>	DC source	<b>40%Pm/Hz</b>
Step g)	<b>50338W</b>	<b>50.00Hz</b>	DC source	<b>40%Pm/Hz</b>