

CERTIFICATE OF CONFORMITY



Issued to: Huawei Digital Power Technologies Co., Ltd
Office 01, 39th Floor, Block A, Antuoshan Headquarters Towers, 33 Antuoshan 6th Road, Futian District, Shenzhen, 518043, Guangdong, P.R. China

For the product: SOLAR INVERTER

Trade name:



Type/Model: SUN2000-3K-LB0, SUN2000-3.68K-LB0, SUN5000-3K-LB0

Ratings: See Annex

Manufactured by: Huawei Digital Power Technologies Co., Ltd
Office 01, 39th Floor, Block A, Antuoshan Headquarters Towers, 33 Antuoshan 6th Road, Futian District, Shenzhen, 518043, Guangdong, P.R. China

Requirements: Engineering Recommendation G98 Issue 1 – Amendment 7:2022

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6180417.50.

The examination has been carried out on one single specimen of the product. The Attestation does not include an assessment of the manufacturer's production. Conformity of this production with the specimen tested by DEKRA is not the responsibility of DEKRA.

This Test Certificate expires at the latest on 2029-07-08 or expires upon withdrawal of one of the above mentioned standards.

Arnhem, 8 July 2024

Number: 6180417.01COC

DEKRA Testing and Certification (Shanghai) Ltd.

Cliff Lin
Certification Manager

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ESA-CER-F021 v4.1

Ratings of the test product:

Operating temperature range: - 25°C to + 60°C

Protective class: I

Ingress protection rating: IP66

Power factor range (adjustable): 0.8 leading...0.8 lagging

SUN2000-3K-LB0:

PV Input: Max. 600 Vdc, MPPT Voltage Range: 40 ~ 560 Vdc, Max. Current: 16 A / 16 A,

Isc PV: 20 A / 20 A

Battery: Max. 600 Vdc, Battery Voltage range: 350 ~ 600 Vdc, Max. Current: 16.5 A

AC Output: 220 / 230 / 240 Vac, 50 / 60 Hz, Rated Power: 3000 W, Rated Apparent Power: 3000 VA,
Max. Apparent Power: 3300 VA, Rated Current: 13.6 A / 13.0 A / 12.5 A, Max. Current: 15 A

SUN2000-3.68K-LB0:

PV Input: Max. 600 Vdc, MPPT Voltage Range: 40 ~ 560 Vdc, Max. Current: 16 A / 16 A,

Isc PV: 20 A / 20 A

Battery: Max. 600 Vdc, Battery Voltage range: 350 ~ 600 Vdc, Max. Current: 16.5 A

AC Output: 230 / 240 Vac, 50 / 60 Hz, Rated Power: 3680 W,

Rated Apparent Power: 3680 VA, Max. Apparent Power: 3680 VA, Rated Current: 16 A / 15.3 A,
Max. Current: 16 A

SUN5000-3K-LB0:

PV Input: Max. 600 Vdc, MPPT Voltage Range: 40 ~ 560 Vdc, Max. Current: 16 A / 16 A,

Isc PV: 20 A / 20 A

Battery: Max. 600 Vdc, Battery Voltage range: 350 ~ 600 Vdc, Max. Current: 16.5 A

AC Output: 220 / 230 / 240 Vac, 50 / 60 Hz, Rated Power: 3000 W, Rated Apparent Power: 3000 VA,
Max. Apparent Power: 3300 VA, Rated Current: 13.6 A / 13.0 A / 12.5 A, Max. Current: 15 A

G98/1-7 Form C: Type Test Verification Report	
Extract form test report number.:	6180417.50

Model: SUN2000-3.68K-LB0				P
Test 1:				
Measured Voltage (V)	Measured Frequency (Hz)	Measured Power (W)	Measured Power factor	Test Time (seconds)
196.435	47.00	3100.17	0.9993	> 20
Test 2:				
Measured Voltage (V)	Measured Frequency (Hz)	Measured Power (W)	Measured Power factor	Test Time (Minutes)
195.895	47.50	3105.62	0.9997	92
Test 3:				
Measured Voltage (V)	Measured Frequency (Hz)	Measured Power (W)	Measured Power factor	Test Time (Minutes)
253.362	51.50	3676.50	1.0000	97
Test 4:				
Measured Voltage (V)	Measured Frequency (Hz)	Measured Power (W)	Measured Power factor	Test Time (Minutes)
230.844	52.00	3644.99	1.0000	17
Test 5:				
Measured Voltage (V)	Measured Frequency (Hz)	Measured Power (W)	Measured Power factor	Test Time (Minutes)
230.906	50.00	3647.05	1.0000	97
Test 6:				
Measured Voltage (V)	Ramp range	Test frequency ramp	Test Duration	Confirm no trip
196.02	47.0 Hz to 52.0 Hz	+1 Hzs ⁻¹	5.0s	No trip
253.50	52.0 Hz to 49.0 Hz	-1 Hzs ⁻¹	3.0s	No trip

2. Power Quality – Harmonics:						P
These tests should be carried out as specified in BS EN 61000-3-2. The chosen test should be undertaken with a fixed source of energy at two power levels a) between 45 and 55% and b) at 100% of Registered Capacity . The test requirements are specified in Annex A1 A.1.3.1 (Inverter connected) or Annex A2 A.2.3.1 (Synchronous).						
Model: SUN2000-3K-LB0						
Micro-generator tested to BS EN 61000-3-2						
Micro-generator rating per phase (rpp)				3	kW	
For 3-phase Micro-generators , tick this box if harmonic measurements are identical for all three phases. If the harmonics are not identical for each phase, please replicate this section with the results for each phase.				Single phase PV inverter		
Harmonic	At 45-55% of Registered Capacity		100% of Registered Capacity		Limit in BS EN 61000-3-2 in Amps	Higher limit for odd harmonics 21 and above
	Measured Value MV in Amps		Measured Value MV in Amps			
2	0.039	-	0.084	-	1.080	
3	0.026	-	0.054	-	2.300	
4	0.010	-	0.016	-	0.430	
5	0.008	-	0.008	-	1.140	
6	0.008	-	0.011	-	0.300	
7	0.013	-	0.038	-	0.770	
8	0.009	-	0.012	-	0.230	
9	0.031	-	0.040	-	0.400	
10	0.006	-	0.008	-	0.184	
11	0.053	-	0.036	-	0.330	
12	0.005	-	0.008	-	0.153	
13	0.068	-	0.043	-	0.210	
14	0.005	-	0.007	-	0.131	
15	0.069	-	0.041	-	0.150	
16	0.005	-	0.007	-	0.115	
17	0.063	-	0.040	-	0.132	
18	0.006	-	0.008	-	0.102	
19	0.051	-	0.041	-	0.118	
20	0.006	-	0.008	-	0.092	
21	0.037	-	0.040	-	0.107	0.160
22	0.006	-	0.007	-	0.032	
23	0.024	-	0.039	-	0.008	0.147
24	0.005	-	0.007	-	0.034	
25	0.018	-	0.038	-	0.011	0.135

26	0.005	-	0.007	-	0.022	
27	0.018	-	0.036	-	0.011	0.124
28	0.004	-	0.007	-	0.023	
29	0.018	-	0.034	-	0.009	0.117
30	0.004	-	0.007	-	0.019	
31	0.014	-	0.030	-	0.010	0.109
32	0.004	-	0.007	-	0.020	
33	0.011	-	0.027	-	0.011	0.102
34	0.003	-	0.007	-	0.024	
35	0.011	-	0.023	-	0.013	0.096
36	0.003	-	0.006	-	0.032	
37	0.013	-	0.020	-	0.008	0.091
38	0.003	-	0.006	-	0.034	
39	0.016	-	0.017	-	0.011	0.087
40	0.003	-	0.005	-	0.022	

Note the higher limits for odd harmonics 21 and above are only allowable under certain conditions, if these higher limits are utilised please state the exemption used as detailed in part 6.2.3.4 of BS EN 61000-3-2 in the box below.

Model: SUN2000-3.68K-LB0						
Micro-generator tested to BS EN 61000-3-2						
Micro-generator rating per phase (rpp)				3.68	kW	
For 3-phase Micro-generators , tick this box if harmonic measurements are identical for all three phases. If the harmonics are not identical for each phase, please replicate this section with the results for each phase.				Single phase PV inverter		
Harmonic	At 45-55% of Registered Capacity		100% of Registered Capacity		Limit in BS EN 61000-3-2 in Amps	Higher limit for odd harmonics 21 and above
	Measured Value MV in Amps		Measured Value MV in Amps			
2	0.047	-	0.103	-	1.080	
3	0.026	-	0.053	-	2.300	
4	0.011	-	0.022	-	0.430	
5	0.008	-	0.005	-	1.140	
6	0.010	-	0.010	-	0.300	
7	0.011	-	0.043	-	0.770	
8	0.011	-	0.013	-	0.230	
9	0.018	-	0.047	-	0.400	
10	0.008	-	0.009	-	0.184	
11	0.026	-	0.040	-	0.330	
12	0.007	-	0.010	-	0.153	
13	0.043	-	0.042	-	0.210	
14	0.007	-	0.011	-	0.131	
15	0.049	-	0.042	-	0.150	
16	0.007	-	0.009	-	0.115	
17	0.051	-	0.042	-	0.132	
18	0.008	-	0.009	-	0.102	
19	0.054	-	0.042	-	0.118	
20	0.010	-	0.010	-	0.092	
21	0.051	-	0.042	-	0.107	0.160
22	0.010	-	0.009	-	0.084	
23	0.046	-	0.041	-	0.098	0.147
24	0.078	-	0.009	-	0.077	
25	0.038	-	0.041	-	0.090	0.135
26	0.011	-	0.009	-	0.071	

27	0.027	-	0.039	-	0.032	0.124
28	0.009	-	0.009	-	0.008	
29	0.020	-	0.038	-	0.034	0.117
30	0.007	-	0.008	-	0.011	
31	0.016	-	0.035	-	0.022	0.109
32	0.006	-	0.008	-	0.011	
33	0.017	-	0.032	-	0.023	0.102
34	0.006	-	0.007	-	0.009	
35	0.019	-	0.029	-	0.019	0.096
36	0.006	-	0.007	-	0.010	
37	0.020	-	0.027	-	0.020	0.091
38	0.005	-	0.006	-	0.011	
39	0.019	-	0.023	-	0.024	0.087
40	0.006	-	0.006	-	0.013	

Note the higher limits for odd harmonics 21 and above are only allowable under certain conditions, if these higher limits are utilised please state the exemption used as detailed in part 6.2.3.4 of BS EN 61000-3-2 in the box below.

3. Power Quality – Voltage fluctuations and Flicker:								P
<p>These tests should be undertaken in accordance with EREC G98 Annex A1 A.1.3.3 (Inverter connected) or Annex A2 A.2.3.3 (Synchronous).</p> <p>The standard test impedance is 0.4 Ω for a single phase Micro-generating Plant (and for a two phase unit in a three phase system) and 0.24 Ω for a three phase Micro-generating Plant (and for a two phase unit in a split phase system). Please ensure that both test and standard impedance are completed on this form. If the test impedance (or the measured impedance) is different to the standard impedance, it must be normalised to the standard impedance as follows (where the Power Factor of the generation output is 0.98 or above):</p> <p>$d \text{ max normalised value} = (\text{Standard impedance} / \text{Measured impedance}) \times \text{Measured value}.$</p> <p>Where the Power Factor of the output is under 0.98 then the X to R ratio of the test impedance should be close to that of the standard impedance.</p> <p>The stopping test should be a trip from full load operation.</p> <p>The duration of these tests needs to comply with the particular requirements set out in the testing notes for the technology under test.</p> <p>The test date and location must be declared.</p>								
Test start date	2024-06-26			Test end date	2024-06-26			
Test location	No.99, Hongye Road, Suzhou Industrial Park, Suzhou, Jiangsu, P.R. China							
Model:	SUN2000-3K-LB0							
Single Phase								
	Starting			Stopping			Running	
	d(max)	d(c)	d(t)	d(max)	d(c)	d(t)	P _{st}	P _{It} 2 hours
Measured Values at test impedance	0.5154	0.0122	0	0.5346	0.0069	0	0.0256	0.0474
Normalised to standard impedance	0.5154	0.0122	0	0.5346	0.0069	0	0.0256	0.0474
Normalised to required maximum impedance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Limits set under BS EN 61000-3-11	4%	3.3%	3.3%	4%	3.3%	3.3%	1.0	0.65
Test Impedance	R	0.4	Ω	XI	0.25	Ω		
Standard Impedance	R	0.24 * 0.4 ^	Ω	XI	0.15 * 0.25 ^	Ω		
Maximum Impedance	R	N/A #	Ω	XI	N/A #	Ω		
<p>*Applies to three phase and split single phase Micro-generators. Delete as appropriate.</p> <p>^ Applies to single phase Micro-generators and Micro-generators using two phases on a three phase system. Delete as appropriate.</p>								

Test start date	2024-06-26			Test end date	2024-06-26			
Test location	No.99, Hongye Road, Suzhou Industrial Park, Suzhou, Jiangsu, P.R. China							
Model:	SUN2000-3.68K-LB0							
Single Phase								
	Starting			Stopping			Running	
	d(max)	d(c)	d(t)	d(max)	d(c)	d(t)	P _{st}	P _{It} 2 hours
Measured Values at test impedance	0.0067	0.5201	0	0.0070	0.5282	0	0.0256	0.0252
Normalised to standard impedance	0.0067	0.5201	0	0.0070	0.5282	0	0.0256	0.0252
Normalised to required maximum impedance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Limits set under BS EN 61000-3-11	4%	3.3%	3.3%	4%	3.3%	3.3%	1.0	0.65
Test Impedance	R	0.4	Ω	XI	0.25	Ω		
Standard Impedance	R	0.24 * 0.4 ^	Ω	XI	0.15 * 0.25 ^	Ω		
Maximum Impedance	R	N/A #	Ω	XI	N/A #	Ω		
*Applies to three phase and split single phase Micro-generators . Delete as appropriate.								
^ Applies to single phase Micro-generators and Micro-generators using two phases on a three phase system. Delete as appropriate.								

4. Power quality – DC injection:					P
This test should be carried out in accordance with A 1.3.4 as applicable. The % DC injection (“as % of rated AC current” below) is calculated as follows: % DC injection = Recorded DC value in Amps / base current where the base current is the Registered Capacity (W) / 230 V. The % DC injection should not be greater than 0.25%.					
Model: SUN2000-3K-LB0					
Single Phase					
Test power level	20%	50%	75%	100%	
Recorded DC injection value in Amps	0.031	0.021	0.026	0.027	
as % of rated AC current	0.24%	0.16%	0.20%	0.21%	
Limit	0.25%	0.25%	0.25%	0.25%	
Model: SUN2000-3.68K-LB0					
Single Phase					
Test power level	20%	50%	75%	100%	
Recorded DC injection value in Amps	0.024	0.012	0.013	0.007	
as % of rated AC current	0.15%	0.08%	0.08%	0.04%	
Limit	0.25%	0.25%	0.25%	0.25%	

5. Power Factor:				P
This test shall be carried out in accordance with A.1.3.2 and A.2.3.2 at three voltage levels and at Registered Capacity and the measured Power Factor must be greater than 0.95 to pass. Voltage to be maintained within $\pm 1.5\%$ of the stated level during the test.				
Model: SUN2000-3K-LB0				
Voltage	0.94 pu (216.2 V)	1 pu (230 V)	1.1 pu (253 V)	
Measured value	1.000	1.000	1.000	
Power Factor Limit	>0.95	>0.95	>0.95	
Model: SUN2000-3.68K-LB0				
Voltage	0.94 pu (216.2 V)	1 pu (230 V)	1.1 pu (253 V)	
Measured value	1.000	1.000	1.000	
Power Factor Limit	>0.95	>0.95	>0.95	

6. Protection – Frequency tests:						P
These tests should be carried out in accordance with Annex A1 A.1.2.3 (Inverter connected) or Annex A2 A.2.2.3 (Synchronous). For trip tests, frequency and time delay should be stated. For “no trip tests”, “no trip” can be stated.						
Model: SUN2000-3.68K-LB0						
Function	Setting		Trip test		“No trip tests”	
	Frequency	Time delay	Frequency	Time delay	Frequency / time	Confirm no trip
U/F stage 1	47.5 Hz	20s	47.48 Hz	20.054 s	47.7 Hz 30 s	No trip
U/F stage 2	47.0 Hz	0.5 s	46.99 Hz	0.549 s	47.2 Hz 19.5 s	No trip
					46.8 Hz 0.45 s	No trip
O/F	52.0 Hz	0.5 s	51.99 Hz	0.550 s	51.8 Hz 120.0 s	No trip
					52.2 Hz 0.45 s	No trip
Note: For frequency trip tests the frequency required to trip is the setting ± 0.1 Hz. In order to measure the time delay a larger deviation than the minimum required to operate the projection can be used. The “No trip tests” need to be carried out at the setting ± 0.2 Hz and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

7. Protection – Voltage tests:						P
These tests should be carried out in accordance with Annex A1 A.1.2.2 (Inverter connected) or Annex A2 A.2.2.2 (Synchronous). For trip tests, voltage and time delay should be stated. For “no trip tests”, “no trip” can be stated.						
Model: SUN2000-3.68K-LB0						
Single Phase						
Function	Setting		Trip test		“No trip tests”	
	Voltage	Time delay	Voltage	Time delay	Voltage / time	Confirm no trip
U/V	0.8 pu (184 V)	2.5 s	182.0 V	2.535 s	188 V 5.0 s	No trip
					180 V 2.45 s	No trip
O/V stage 1	1.14 pu (262.2 V)	1.0 s	262.7 V	1.017 s	258.2 V 5.0 s	No trip
O/V stage 2	1.19 pu (273.7 V)	0.5 s	274.3 V	0.531 s	269.7 V 0.95 s	No trip
					277.7 V 0.45 s	No trip
Note: For Voltage tests the Voltage required to trip is the setting ± 3.45 V. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting ± 4 V and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

8. Protection – Loss of Mains test:							P
For PV Inverters shall be tested in accordance with BS EN 62116. Other Micro-generators should be tested in accordance with A.2.2.4 at 10%, 55% and 100% of rated power.							
For test condition A, EUT output = 100 % P _n , test condition B, EUT output = 50 % to 66 % P _n , and test condition C, EUT output = 25 % to 33 % P _n .							
Model: SUN2000-3.68K-LB0							
For Inverters tested to BS EN 62116 the following sub set of tests should be recorded in the following table.							
Test Power and imbalance	33% -5% Q Test 22	66% -5% Q Test 12	100% -5% P Test 5	33% +5% Q Test 31	66% +5% Q Test 21	100% +5% P Test 10	
Trip time. Limit is 0.5s	0.107	0.133	0.070	0.083	0.072	0.073	

8. Protection – Frequency change, Vector Shift Stability test:				P
This test should be carried out in accordance with EREC G98 Annex A1 A.1.2.6 (Inverter connected) or Annex A2 A.2.2.6 (Synchronous). Confirmation is required that the Micro-generating Plant does not trip under positive / negative vector shift.				
Model: SUN2000-3.68K-LB0				
	Start Frequency	Change	Confirm no trip	
Positive Vector Shift	49.0 Hz	+50 degrees	No trip	
Negative Vector Shift	50.0 Hz	-50 degrees	No trip	

8. Protection – Frequency change, RoCoF Stability test:				P
The requirement is specified in section 11.3, test procedure in Annex A.1.2.6 (Inverter connected) or Annex A2 A.2.2.6 (Synchronous). Confirmation is required that the Micro-generating Plant does not trip for the duration of the ramp up and ramp down test.				
Model: SUN2000-3.68K-LB0				
Ramp range	Test frequency ramp:	Test Duration	Confirm no trip	
49.0 Hz to 51.0 Hz	+0.95 Hzs ⁻¹	2.1 s	No trip	
51.0 Hz to 49.0 Hz	-0.95 Hzs ⁻¹	2.1 s	No trip	

9. Limited Frequency Sensitive Mode – Over frequency test:					P
This test should be carried out in accordance with A.1.2.9. The test should be carried out using the specific threshold frequency of 50.4 Hz and Droop of 10%. The measurement tolerances are contained in A.1.2.9.					
Model: SUN2000-3.68K-LB0					
Alternatively, simulation results should be noted below:					
Test sequence at Registered Capacity >80%	Measured Active Power Output (W)	Frequency (Hz)	Calculated droop (%)	Primary Power Source	Active Power Gradient
Step a) 50.00 Hz ±0.01 Hz	3646.31	50.00	-	Photovoltaic array simulator	-
Step b) 50.45 Hz ±0.05 Hz	3608.37	50.45	9.70		-
Step c) 50.70 Hz ±0.10 Hz	3424.69	50.70	9.96		-
Step d) 51.15 Hz ±0.05 Hz	3094.03	51.15	9.99		-
Step e) 50.70 Hz ±0.10 Hz	3422.87	50.70	9.88		-
Step f) 50.45 Hz ±0.05 Hz	3607.60	50.45	9.51		-
Step g) 50.00 Hz ±0.01 Hz	3650.12	50.00	-		-
Test sequence at Registered Capacity 40-60%	Measured Active Power Output (W)	Frequency (Hz)	Calculated droop (%)	Primary Power Source	Active Power Gradient
Step a) 50.00 Hz ±0.01 Hz	1834.76	50.00	-	Photovoltaic array simulator	-
Step b) 50.45 Hz ±0.05 Hz	1795.27	50.45	9.32		-
Step c) 50.70 Hz ±0.10 Hz	1611.73	50.70	9.90		-
Step d) 51.15 Hz ±0.05 Hz	1282.03	51.15	9.99		-
Step e) 50.70 Hz ±0.10 Hz	1608.23	50.70	9.75		-
Step f) 50.45 Hz ±0.05 Hz	1794.27	50.45	9.09		-
Step g) 50.00 Hz ±0.01 Hz	1834.67	50.00	-		-
<p>The frequency at each step should be maintained for at least one minute and the Active Power reduction in the form of a gradient determined and assessed for compliance with paragraph 11.2.3. The Droop should be determined from the measurements between 50.4 Hz and 51.15 Hz. The allowed tolerance for the frequency measurement shall be ± 0.05 Hz. The allowed tolerance for Active Power output measurement shall be ±10% of the required change in Active Power.</p> <p>The resulting overall tolerance range for a nominal 10% Droop is +2.8% and – 1.5%, ie a Droop less than 12.8% and greater than 8.5%.</p>					

10. Power output with falling frequency test (For PV Inverter):				P
This test should be carried out in accordance with A.1.2.7.				
Model: SUN2000-3.68K-LB0				
Test sequence	Measured Active Power Output (W)	Frequency (Hz)	Primary power source	
Test a) 50 Hz \pm 0.01 Hz	3633.79	50.00	Photovoltaic array simulator	
Test b) Point between 49.5 Hz and 49.6 Hz	3631.84	49.55	Photovoltaic array simulator	
Test c) Point between 47.5 Hz and 47.6 Hz	3632.77	47.55	Photovoltaic array simulator	
<p>NOTE: The operating point in Test (b) and (c) shall be maintained for at least 5 minutes.</p> <p>The test is regarded as passed if:</p> <ul style="list-style-type: none"> the Micro-generator does not disconnect from the network at the operating points a) to c) when the network frequency is changed and the Micro-generator does not reduce output energy at point b) and the power reduction at point c) is less than or equal to the allowed power reduction according to paragraph 9.4.2 (Figure 3). <p>The following data shall be documented:</p> <ul style="list-style-type: none"> variation of the network frequency with time; the measured Active Power with time. 				

12. Re-connection timer				P
Model: SUN2000-3.68K-LB0				
Test should prove that the reconnection sequence starts after a minimum delay of 20 s for restoration of voltage and frequency to within the stage 1 settings of Table 2. Both the time delay setting and the measured delay should be provided in this form; both should be greater than 20 s to pass. Confirmation should be provided that the Micro-generating Plant does not reconnect at the voltage and frequency settings below; a statement of "no reconnection" can be made.				
Time delay setting	Measured delay	Checks on no reconnection when voltage or frequency is brought to just outside stage 1 limits of Table 10.1.		
60 s	73.30 s	At 1.16 pu (266.2 V)	At 0.78 pu (180.0 V)	At 47.4 Hz
		At 52.1 Hz		
Confirmation that the Micro-generator does not re-connect.	No Reconnection	No Reconnection	No Reconnection	No Reconnection
Recover to normal operation range after confirmation of no connection	Yes	Yes	Yes	Yes
Confirmation that the Power Generating Module shall reconnect	Reconnection after 73.30 s	Reconnection after 72.95 s	Reconnection after 73.05 s	Reconnection after 72.10 s

13. Fault level contribution:					P
These tests shall be carried out in accordance with EREC G98 Annex A1 A.1.3.5 (Inverter connected) and Annex A2 A.2.3.4 (Synchronous). Please complete each entry, even if the fault contribution is zero.					
Model: SUN2000-3.68K-LB0					
For machines with electro-magnetic output			For Inverter output		
Parameter	Symbol	Value	Time after fault	Volts	Amps
Peak Short Circuit current	i_p	N/A	20ms	0.11	16.39
Initial Value of aperiodic current	A	N/A	100ms	0	0
Initial symmetrical short-circuit current*	I_k	N/A	250ms	0	0
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	0	0
Reactance/Resistance Ratio of source*	X/R	N/A	Time to trip	0.048	In seconds
For rotating machines and linear piston machines the test should produce a 0 s – 2 s plot of the short circuit current as seen at the Micro-generator terminals.					
* Values for these parameters should be provided where the short circuit duration is sufficiently long to enable interpolation of the plot.					

14. Logic interface (input port)	
Confirm that an input port is provided and can be used to reduce the Active Power output to zero	Yes
Provide high level description of logic interface, e.g. details in 9.4.3 such as AC or DC signal (the additional comments box below can be used)	Yes
15. Self-Monitoring solid state switching: No specified test requirements. Refer to EREC G98 Annex A1 A.1.3.6 (Inverter connected).	
It has been verified that in the event of the solid state switching device failing to disconnect the Micro-generator , the voltage on the output side of the switching device is reduced to a value below 50 V within 0.5 s.	Yes
16. Cyber security	
Confirm that the Manufacturer or Installer of the Micro-generator has provided a statement describing how the Micro-generator has been designed to comply with cyber security requirements, as detailed in 9.7.	Yes, Manufacturer's declaration provided.
Additional comments.	
<p>The DNO logic interface uses COM port, control the on and off of DI1 and GND by switch. When the switch is closed, the Power Generating Module can operate normally. When the switch is opened, the Power Generating Module will reduce its active power to zero within 5s. The signal from the Power Generating Module that is being switched is DC (value 12V).</p> <div style="text-align: center;"> </div>	

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