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DAkkS Deutsche Akkreditierungsstelle D-ZE-11321-01-00

TÜV SÜD Product Service

Certificate of Conformity

No. ESY 127292 0004 Rev. 00

Holder of Certificate: **Sunshare Technology Co., Ltd.**
2nd Floor, Building A
No. 2999 Jiyin Avenue, Jiangning District
211100 Nanjing City, Jiangsu Province
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter (PV Inverter)**

Model(s): **SR-C800EU**

Parameters: See page 2

Applicable standards:
VDE-AR-N 4105:2018
DIN VDE V 0124-100 (VDE V 0124-100):2020

This Certificate of Conformity confirms the compliance with the above listed standards on a voluntary basis. It refers only to the sample submitted to TÜV SÜD Product Service GmbH and does not certify the quality or safety of the serial products. It was issued according to TÜV SÜD Product Service certification program Photovoltaics and Grid Integration. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290243106001

Date, 2024-11-12

(Billy Qiu)

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Parameters:

Model	SR-C800EU
PV terminal parameters	
Maximum PV voltage [V_{DC}]	60
Rated voltage [V_{DC}]	40
MPPT voltage range [V_{DC}]	22-55
Maximum input current [A_{DC}]	28
Isc PV [A_{DC}]	32
MPPT tracker number	1
Maximum input power [W]	800
Grid terminal output parameters	
Rated output voltage [V_{AC}]	1P+N+PE, 230
Rated output frequency [Hz]	50
Rated output current [A_{AC}]	3.48
Maximum continuous output current [A_{AC}]	3.48
Rated output active power [W]	800
Maximum output active power P_{Emax} [W]	800
Maximum output apparent power S_{Emax} [VA]	800
Power factor range	0.95 inductive(under-excited) to 0.95 capacitive(over-excited)

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E.4 Unit certificate

Unit certificate		
Manufacturer	Sunshare Technology Co., Ltd.	
Power generation unit type	[Micro Inverter]: SR-C800EU	
Assessment values	max. active power P_{Emax}	800 W(SR-C800EU)
	max. apparent power S_{Emax}	800 VA(SR-C800EU)
	Rated voltage	1P+N+PE, 230 V_{AC}
	Rated current (AC) I_r	3.48 A(SR-C800EU)
	Initial short-circuit AC current I''_k	3.48 A(SR-C800EU)
Network connection rule	**VDE-AR-N 4105:2018-11 "Generators connected to the low-voltage distribution network"** Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network	
Test requirement	**DIN VDE V 0124-100 (VDE V 0124-100):2020-06 "Network integration of power generation systems – Low voltage"** Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network	
Test report	64.290.24.31060.01 from 2024-10-16	
The above designated power generation unit meets the requirements of VDE-AR-N 4105:2018-11.		

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TÜV SÜD Product Service

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E.5 Test report "Network interactions" for power generation units with an input current > 75 A

Extract of the test report for power generation units "Determination of electrical properties"		
System manufacturer:	Sunshare Technology Co., Ltd. 2nd Floor, Building A, No. 2999 Jiyin Avenue, Jiangning District, 211100 Nanjing City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA	
Manufacturer indications:	Type of system	Micro Inverter for PV systems
	Max. active power P_{Emax}	800 W(SR-C800EU)
	Rated voltage	1P+N+PE, 230 V_{AC}
Measurement period:	From 2024-07-22 to 2024-10-16	

Rapid voltage change		
Model	SR-C800EU	
Connection without provisions (regarding the primary energy carrier)		K_i=0.51
Most adverse case when switching between generator levels		K_i=0.51
Connection at nominal conditions (of the primary energy carrier)		K_i=1.01
Disconnection at rated power		K_i=1.01
Worst value of all switching operations		K_{imax}=1.01

Flicker (SR-C800EU)					
Network impedance angle Ψ_k	30°	50°	70°	85°	32°
Coefficient of system flicker C_ψ (Maximum)					
L1	--	--	--	--	0.8448
L2	--	--	--	--	--
L3	--	--	--	--	--
Remark: The ratio of Sk,fic/Sn used for the analysis: 33 during the test.					

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TÜV SÜD Product Service

Certificate of Conformity

No. ESY 127292 0004 Rev. 00

Harmonics (≤16 A) (SR-C800EU)												
Active power P/Pn[%]	0	10	20	30	40	50	60	70	80	90	100	Limit value
Ordinal number	A	A	A	A	A	A	A	A	A	A	A	A
2	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.010	0.009	0.013	1.08
3	0.000	0.005	0.009	0.015	0.020	0.025	0.028	0.033	0.039	0.040	0.041	2.30
4	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.006	0.008	0.006	0.006	0.43
5	0.001	0.004	0.006	0.011	0.015	0.018	0.021	0.024	0.025	0.020	0.017	1.14
6	0.000	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.003	0.004	0.005	0.30
7	0.001	0.003	0.005	0.009	0.012	0.015	0.017	0.019	0.025	0.023	0.023	0.77
8	0.000	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.23
9	0.001	0.003	0.004	0.008	0.010	0.013	0.014	0.017	0.018	0.015	0.013	0.40
10	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.003	0.004	0.004	0.18
11	0.001	0.002	0.004	0.007	0.010	0.012	0.013	0.016	0.018	0.016	0.017	0.33
12	0.000	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.003	0.004	0.004	0.15
13	0.001	0.002	0.004	0.006	0.009	0.011	0.012	0.014	0.018	0.015	0.011	0.21
14	0.000	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.005	0.13
15	0.001	0.002	0.003	0.006	0.008	0.010	0.012	0.014	0.014	0.012	0.012	0.15
16	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.005	0.12
17	0.001	0.002	0.003	0.006	0.008	0.010	0.012	0.014	0.020	0.017	0.012	0.13
18	0.000	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.003	0.004	0.005	0.10
19	0.001	0.002	0.004	0.007	0.009	0.011	0.013	0.015	0.015	0.013	0.009	0.12
20	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.003	0.004	0.005	0.09
21	0.001	0.003	0.004	0.008	0.010	0.013	0.016	0.018	0.025	0.022	0.014	0.11
22	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.003	0.004	0.005	0.08
23	0.001	0.003	0.005	0.009	0.012	0.015	0.018	0.021	0.023	0.021	0.013	0.10
24	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.08
25	0.001	0.004	0.006	0.010	0.014	0.017	0.021	0.024	0.030	0.029	0.021	0.09
26	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.07
27	0.001	0.004	0.006	0.011	0.015	0.019	0.022	0.026	0.030	0.028	0.021	0.08
28	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.07
29	0.001	0.004	0.007	0.012	0.015	0.019	0.023	0.027	0.033	0.032	0.025	0.08
30	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.004	0.005	0.005	0.06
31	0.001	0.004	0.007	0.012	0.015	0.019	0.023	0.027	0.031	0.030	0.025	0.07
32	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.004	0.005	0.005	0.06
33	0.001	0.004	0.007	0.011	0.015	0.019	0.023	0.026	0.031	0.031	0.027	0.07
34	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.005	0.005	0.006	0.05
35	0.001	0.004	0.007	0.011	0.014	0.018	0.022	0.025	0.028	0.030	0.027	0.06
36	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.005	0.005	0.006	0.05
37	0.001	0.003	0.006	0.010	0.013	0.017	0.020	0.023	0.026	0.030	0.027	0.06
38	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.006	0.005	0.006	0.006	0.05
39	0.001	0.003	0.006	0.009	0.012	0.016	0.019	0.022	0.024	0.028	0.027	0.06
40	0.001	0.001	0.002	0.003	0.003	0.004	0.005	0.006	0.006	0.006	0.006	0.05
THD	4.395	4.371	4.110	4.510	4.515	4.474	4.379	4.358	4.382	3.932	3.295	5%

Remark:
1. Iref=3.48 A.
2.Rsce=33.

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E.6 Certificate of the network and system protection

Certificate of NS protection		
Manufacturer	Sunshare Technology Co., Ltd.	
Type of NS protection	Integrated NS protection	
Central NS protection	☐	
Integrated NS protection	☒	Assigned to power generation unit of type: SR-C800EU
Network connection rule	**VDE-AR-N 4105:2018-11 "Generators connected to the low-voltage distribution network"** Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network	
Test requirement	**DIN VDE V 0124-100 (VDE V 0124-100):2020-06 "Network integration of power generation systems – Low voltage"** Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network	
Test report	64.290.24.31060.01 from 2024-10-16	
The network and system protection designated above meets the requirements of VDE-AR-N 4105:2018-11.		

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E.7 Requirements for the test report for the NS protection

Extract from test report for NS protection "Determination of electrical properties"		
NS protection test report		
Type of NS system:	Integrated NS protection	Other Manufacturer indications
Software version:	8A	
Manufacturer:	Sunshare Technology Co., Ltd. 2nd Floor, Building A, No. 2999 Jiyin Avenue, Jiangning District, 211100 Nanjing City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA	
Measuring period:	From 2024-07-31 to 2024-08-01	

	Inverter		
Protection function	**Setting value**	**Tripping value**	**Tripping time NS protection***
Rise-in-voltage protection *U* >>	1.25 * U_n	L1-N: 287.42V	L1-N: 189.46ms
Rise-in-voltage protection *U* >	1.10 * U_n	1.10 * U_n	ms**
Voltage drop protection *U* <	0.8 * U_n	L1-N: 184.21V	L1-N: 3000.02ms
Voltage drop protection *U* <<	0.45 * U_n	L1-N: 103.49V	L1-N: 380.43ms
Frequency decrease protection *f* <	47.5 Hz	47.49Hz	170.30ms
Frequency increase protection *f* >	51.5 Hz	51.51Hz	191.59ms

*: The tripping time includes the period from the limit value violation U/f until disconnection of the integrated interface switch (sum of the tripping time of the NS protection plus the response time of the integrated interface switch).

**: Verification disconnection time of moving 10-min-average value.

Disconnecting time as below:

507.34s (L1-N from 600s@U_n to 112%U_n)

Continuous operation (L1-N from 600s@U_n to 108%U_n)

309.36s (L1-N from 600s@106%U_n to 114%U_n)

☑ **as integrated NS protection**	
Assigned to power generation unit type	SR-C800EU
Integrated interface switch type	Series-connected relays for all phase conductors each Relay type: W35L-2AT-L2-DC12V
Response time of interface switch for integrated NS protection	Release time: Max. 5 ms
Verification of the entire functional chain "integrated NS protection – interface switch" has resulted in successful disconnection.	☑