

CERTIFICATE

Alpha ESS Co., Ltd.

JiuHua Road 888, High-Tech Industrial Development Zone
226300 Nantong City, Jiangsu Province, P.R. China

is authorized to provide the product(s) mentioned below with the mark as illustrated:



Description of product(s) (details see Annex 2):

Hybrid Inverter

It is certified by **TÜV NORD CERT GmbH** that the product(s) described above has(have) been assessed according to the certification program mentioned below and found in compliance with the requirements of below specified certification fundamental(s). This certification is based on evaluation results as documented in test report(s) referenced below and production site(s) audit results as documented in factory inspection report(s) referenced in Annex 1. This certificate is valid in conjunction with these quoted report(s).

Certification program:	P31-VA-01 Rev. 02 04.20	
Certification fundamental(s):	IEC 62109-1:2010; IEC 62109-2:2011	
Registered no.:	44 780 21 406749 - 039	
Manufacturer:	See Annex 1	
Test report no.:	492011617.001	Valid from: 2021-03-25
File no.:	PVP11052/20E-01	Valid until: 2026-03-24



TÜV NORD CERT GmbH
Certification Body
Energy Storage System



Essen, 2021-03-25

ANNEX

Annex 1, Page 1 of 1

to Certificate registration no. 44 780 21 406749 - 039

Manufacturer:

Alpha ESS Co., Ltd.

JiuHua Road 888, High-Tech Industrial Development Zone 226300 Nantong City,
Jiangsu Province, P.R. China

Factory(-ies):

Factory :

Heyuan Sinovo Electric Technology Co., Ltd.

Dongyuan County, Xian Tang Town,
Dongyuan Reservoir Immigrant "Double Transfer" Demonstration Base, P.R. China
Factory inspection report no.: 862010532.001

Remark:

Factory inspection is mandatory to be performed annually. Please refer to factory inspection report for detailed information.

A handwritten signature in blue ink, appearing to read "Alvina Ullrich".

TÜV NORD CERT GmbH
Certification Body
Energy Storage System

Essen, 2021-03-25

ANNEX

Annex 2, Page 1 of 2

to Certificate registration no. 44 780 21 406749 - 039

Description of product(s):

Model type	SMILE5-INV		
General information			
Over voltage Category (OVC)..... :	DC Input: II AC Output: III	Pollution degree	External PD3 Internal PD2
Safety class..... :	Class I	Relative humidity	15-85%
IP grade..... :	IP65	Altitude	2000m
Operating temperature..... :	-20-60°C (> 40 derating)	Communication interface	Ethernet
Type of PCS..... :	Non-Isolated	Separated by	Transformer-less
Firmware [DSP / MCU]	V1.47	EMS [version]	V1.02.27
Response time of Grid-connected and Off-line switch	20ms	Response time of Charge and Discharge switch..... :	20ms
Weight..... :	60 kg	Size (W x H x D) [mm]	600×600×250
Discharge mode:			
DC input(Battery)			
Starting voltage	125V	Max. input DC power	2*3300W
Max. input voltage..... :	580V	Max. input current	2*12A
Number of input(s)	2	ISC	2*15A



ANNEX

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AC output			
Max. output AC power	5000W	Max. output current	21.7A
Max. output voltage.....	230V	Frequency	50/60Hz
Power Factor cosφ [λ]	[-0.8,0.8]	Max. Apparent Power	5000VA
THD.....	<5%	-	-
AC charge mode:			
AC input			
Max. input AC power.....	5000W	Max. input current	21.7A
Max. input voltage.....	230V	Frequency	50/60Hz
DC Output(Battery)			
Rated. Charge voltage	48V	Rated charge power	5000W
Max. charge current	100A	-	-

Remark:

For detailed product information, please refer to CDF (Constructional Data Form) in Annex 1 of test report.

