

Certificate of compliance

Applicant: NingBo Deye Inverter Technology Co., Ltd.
No. 26 South YongJiang Road, Daqi, Beilun, NingBo
China

Product: Photovoltaic and battery inverter (Hybrid-Inverter)

Model: SUN-3.6K-SG05LP1-EU, SUN-5K-SG05LP1-EU,
SUN-6K-SG05LP1-EU, SUN-7K-SG05LP1-EU,
SUN-7.6K-SG05LP1-EU, SUN-8K-SG05LP1-EU,
SUN-3.6K-SG05LP1-EU-AM2-P, SUN-5K-SG05LP1-EU-AM2-P,
SUN-6K-SG05LP1-EU-AM2-P, SUN-7K-SG05LP1-EU-AM2-P,
SUN-7.6K-SG05LP1-EU-AM2-P, SUN-8K-SG05LP1-EU-AM2-P,
AI-W5.1-3.6P1-EU-B, AI-W5.1-5P1-EU-B, AI-W5.1-6P1-EU-B,
AI-W5.1-7P1-EU-B, AI-W5.1-7.6P1-EU-B, AI-W5.1-8P1-EU-B

The device is designed to work as a generation unit of the type: A

Inverter for single-phase parallel connection to the public grid. The network monitoring and disconnection device is an integral part of the above-mentioned model.

Applied rules and standards:

EN 50549-1:2019

Requirements for parallel connection of installations with distribution networks - Part 1: Connection to an LV distribution network - Production of installations up to and including Type B

- 4.4 Normal operating range
- 4.5 Immunity to disturbances
- 4.6 Active response to frequency deviation
- 4.7 Power response to voltage variations and voltage changes
- 4.8 EMC and power quality
- 4.9 Interface protection
- 4.10 Connection and starting to generate electrical power
- 4.11 Ceasing and reduction of active power on set point
- 4.13 Requirements regarding single fault tolerance of interface protection system and interface switch

DIN VDE V 0124-100:2020 (5.5.2.1 Functional safety of network and system protection)

Grid integration of generator plants - Low-voltage - Test requirements for generator units to be connected to and operated in parallel with low-voltage distribution networks

Commission Regulation (EU) 2016/631 of 14 April 2016

Establishing a network code on requirements for grid connection of generators (NC RFG).
Type approval for generation units to use in Type A plants.

At the time of issue of this certificate, the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: ASUE-ESH-P22110232-R3

Certificate number: U24-1106

Certification Program: NSOP-0032-DEU-ZE-V10

Date of issue: 2024-11-26

Accreditation



Accredited certification body by Deutsche Akkreditierungsstelle GmbH (DAKkS) according to ISO/IEC 17065. The accreditation is valid only for the scope listed in the annex of the accreditation certificate D-ZE-12024-01-00. The Deutsche Akkreditierungsstelle GmbH (DAKkS) is signatory of the multilateral arrangements of EA, ILAC and IAF for mutual recognition.

Without the written consent of Bureau Veritas Consumer Products Services Germany GmbH excerpts of this certificate of conformity shall not be reproduced.

Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016				
Manufacturer	NingBo Deye Inverter Technology Co., Ltd. No. 26 South YongJiang Road, Daqi, Beilun, NingBo China			
Product type	Photovoltaic and battery inverter (Hybrid-Inverter)			
Static converter model	SUN-3.6K-SG05LP1-EU	SUN-5K-SG05LP1-EU	SUN-6K-SG05LP1-EU	SUN-7K-SG05LP1-EU
Input DC (photovoltaic)				
MPP voltage range [V]	150-425	150-425	150-425	150-425
Max. input voltage [V]	500	500	500	500
Max. input current per MPPT [A]	13+13	13+13	13+13	26+26
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. charge current [A]	90	120	135	175
Max. discharge current [A]	90	120	135	175
Output AC				
Rated AC voltage [V]	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz
Rated output current [A]	15,7	21,7	26,1	30,5
Max. output current [A]	17,2	23,9	28,7	33,5
Nom. converter output (P _{NINV}) [W]	3600	5000	6000	7000
Max. apparent power [VA]	3960	5500	6600	7700
Static converter model	SUN-7.6K-SG05LP1-EU	SUN-8K-SG05LP1-EU	SUN-3.6K-SG05LP1-EU -AM2-P	SUN-5K-SG05LP1-EU -AM2-P
Input DC (photovoltaic)				
MPP voltage range [V]	150-425	150-425	150-425	150-425
Max. input voltage [V]	500	500	500	500
Max. input current per MPPT [A]	26+26	26+26	18+18	18+18
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. charge current [A]	190	190	90	120
Max. discharge current [A]	190	190	90	120
Output AC				
Rated AC voltage [V]	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz
Rated output current [A]	33,0	34,8	15,7	21,7
Max. output current [A]	36,3	38,3	17,2	23,9
Nom. converter output (P _{NINV}) [W]	7600	8000	3600	5000
Max. apparent power [VA]	8360	8800	3960	5500

Static converter model	SUN-6K-SG05LP1-EU -AM2-P	SUN-7K-SG05LP1-EU -AM2-P	SUN-7.6K-SG05LP1-EU -AM2-P	SUN-8K-SG05LP1-EU -AM2-P
Input DC (photovoltaic)				
MPP voltage range [V]	150-425	150-425	150-425	150-425
Max. input voltage [V]	500	500	500	500
Max. input current per MPPT [A]	18+18	32+32	32+32	32+32
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. charge current [A]	135	175	190	190
Max. discharge current [A]	135	175	190	190
Output AC				
Rated AC voltage [V]	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz
Rated output current [A]	26,1	30,5	33,0	34,8
Max. output current [A]	28,7	33,5	36,3	38,3
Nom. converter output (P _{NINV}) [W]	6000	7000	7600	8000
Max. apparent power [VA]	6600	7700	8360	8800
Static converter model	AI-W5.1-3.6P1-EU-B	AI-W5.1-5P1-EU-B	AI-W5.1-6P1-EU-B	AI-W5.1-7P1-EU-B
Input DC (photovoltaic)				
MPP voltage range [V]	150-425	150-425	150-425	150-425
Max. input voltage [V]	500	500	500	500
Max. input current per MPPT [A]	18+18	18+18	18+18	32+32
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. charge current [A]	90	120	135	175
Max. discharge current [A]	90	120	135	175
Output AC				
Rated AC voltage [V]	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz
Rated output current [A]	15,7	21,7	26,1	30,5
Max. output current [A]	17,2	23,9	28,7	33,5
Nom. converter output (P _{NINV}) [W]	3600	5000	6000	7000
Max. apparent power [VA]	3960	5500	6600	7700
Static converter model	AI-W5.1-7.6P1-EU-B	AI-W5.1-8P1-EU-B	--	--
Input DC (photovoltaic)				
MPP voltage range [V]	150-425	150-425	--	--
Max. input voltage [V]	500	500	--	--
Max. input current per MPPT [A]	32+32	32+32	--	--
Input DC (battery)				
DC voltage range [V]	40-60	40-60	--	--
Max. charge current [A]	190	190	--	--

Max. discharge current [A]	190	190	--	--
Output AC				
Rated AC voltage [V]	L/N/PE, 230, 50 Hz	L/N/PE, 230, 50 Hz	--	--
Rated output current [A]	33,0	34,8	--	--
Max. output current [A]	36,3	38,3	--	--
Nom. converter output (P _{NINV}) [W]	7600	8000	--	--
Max. apparent power [VA]	8360	8800	--	--
Interface protection system and interface switch (Network and system protection “NS-protection”)				
Type of protection	Integrated NS-protection			
Assigned to generation unit type	SUN-3.6K-SG05LP1-EU, SUN-5K-SG05LP1-EU, SUN-6K-SG05LP1-EU, SUN-7K-SG05LP1-EU, SUN-7.6K-SG05LP1-EU, SUN-8K-SG05LP1-EU, SUN-3.6K-SG05LP1-EU-AM2-P, SUN-5K-SG05LP1-EU-AM2-P, SUN-6K-SG05LP1-EU-AM2-P, SUN-7K-SG05LP1-EU-AM2-P, SUN-7.6K-SG05LP1-EU-AM2-P, SUN-8K-SG05LP1-EU-AM2-P, AI-W5.1-3.6P1-EU-B, AI-W5.1-5P1-EU-B, AI-W5.1-6P1-EU-B, AI-W5.1-7P1-EU-B, AI-W5.1-7.6P1-EU-B, AI-W5.1-8P1-EU-B			
Integrated interface switch	(For models SUN-3.6K-SG05LP1-EU, SUN-5K-SG05LP1-EU, SUN-6K-SG05LP1-EU, SUN-3.6K-SG05LP1-EU-AM2-P, SUN-5K-SG05LP1-EU-AM2-P, SUN-6K-SG05LP1-EU-AM2-P AI-W5.1-3.6P1-EU-B, AI-W5.1-5P1-EU-B, AI-W5.1-6P1-EU-B) Type of switching equipment 1: Relay (Model ME109-S-1A-JF) Type of switching equipment 2: Relay (Model ME109-S-1A-JF)			
	(For models SUN-7K-SG05LP1-EU, SUN-7.6K-SG05LP1-EU, SUN-8K-SG05LP1-EU, SUN-7K-SG05LP1-EU-AM2-P, SUN-7.6K-SG05LP1-EU-AM2-P, SUN-8K-SG05LP1-EU-AM2-P, AI-W5.1-7.6P1-EU-B, AI-W5.1-8P1-EU-B, AI-W5.1-7P1-EU-B) Type of switching equipment 1: Relay (Model ME121-S-1A-F) Type of switching equipment 2: Relay (Model ME121-S-1A-F)			
	Note: The output is switched off by the inverter bridge and two relay in series in each line and neutral.			
Firmware version	5385			
Note				
The settings of the interface protection are password protected adjustable.				
In case the above stated generators are used with an external protection device, the protection settings of the inverters are to be adjusted according to the manufacturer’s declaration.				
The above stated generators are tested according to the requirements in the EN 50549-1:2019 Commission Regulation (EU) 2016/631 of 14 April 2016. Any modification that affects the stated tests must be named by the manufacturer/supplier of the product to ensure that the product meets all requirements.				