

Certificate of compliance

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

Product: Hybrid inverter

Model: SUN-3K-SG05LP3-EU-SM2
SUN-4K-SG05LP3-EU-SM2
SUN-5K-SG05LP3-EU-SM2
SUN-6K-SG05LP3-EU-SM2
SUN-8K-SG05LP3-EU-SM2
SUN-10K-SG05LP3-EU-SM2
SUN-12K-SG05LP3-EU-SM2

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

Inverter for three-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/A1:2023

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

EN 50549-10:2022

Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests for conformity assessment of generating units

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-P24121437

Certificate number: U25-0349

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

Date of issue: 2025-04-14

Certification body

Accreditation



Domenik Koll
Head of Energy Systems Germany



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.

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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	Hybrid inverter			
Static converter model	SUN-3K-SG05LP3-EU-SM2	SUN-4K-SG05LP3-EU-SM2	SUN-5K-SG05LP3-EU-SM2	SUN-6K-SG05LP3-EU-SM2
Input DC (photovoltaic)				
MPP voltage range [V]	200-650	200-650	200-650	200-650
Max. input voltage [V]	800	800	800	800
Max. input current per MPPT [A]	20+20	20+20	20+20	20+20
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	40-60
Max. DC voltage [V]	60	60	60	60
Max. DC current per DC input [A]	70	95	120	135
Output AC				
Rated AC voltage [V]	3L/N/PE, 230/400V, 50Hz	3L/N/PE, 230/400V, 50Hz	3L/N/PE, 230/400V, 50Hz	3L/N/PE, 230/400V, 50Hz
Rated output current [A]	4,4	5,8	7,3	8,7
Max. output current [A]	4,8	6,4	8,0	9,6
Nom. converter output (P _{NINV}) [W]	3000	4000	5000	6000
Max. apparent power [VA]	3300	4400	5500	6600
Static converter model	SUN-8K-SG05LP3-EU-SM2	SUN-10K-SG05LP3-EU-SM2	SUN-12K-SG05LP3-EU-SM2	--
Input DC (photovoltaic)				
MPP voltage range [V]	200-650	200-650	200-650	--
Max. input voltage [V]	800	800	800	--
Max. input current per MPPT [A]	20+20	26+26	26+26	--
Input DC (battery)				
DC voltage range [V]	40-60	40-60	40-60	--
Max. DC voltage [V]	60	60	60	--
Max. DC current per DC input [A]	190	210	240	--
Output AC				
Rated AC voltage [V]	3L/N/PE, 230/400V, 50Hz	3L/N/PE, 230/400V, 50Hz	3L/N/PE, 230/400V, 50Hz	--
Rated output current [A]	11,6	14,5	17,4	--
Max. output current [A]	12,8	16,0	19,2	--
Nom. converter output (P _{NINV}) [W]	8000	10000	12000	--
Max. apparent power [VA]	8800	11000	13200	--

Interface protection system and interface switch (Network and system protection "NS-protection")

Type of protection	Integrated NS-protection
Assigned to generation unit type	SUN-3K-SG05LP3-EU-SM2 SUN-4K-SG05LP3-EU-SM2 SUN-5K-SG05LP3-EU-SM2 SUN-6K-SG05LP3-EU-SM2 SUN-8K-SG05LP3-EU-SM2 SUN-10K-SG05LP3-EU-SM2 SUN-12K-SG05LP3-EU-SM2
Integrated interface switch	Type of switching equipment 1: Relay (Model CHAR-112A90EA) Type of switching equipment 2: Relay
	Note: The output is switched off by the inverter bridge and one relay in series in each line and neutral.
Firmware version	1144
<p>Note</p> <p>The settings of the interface protection are password protected adjustable.</p> <p>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.</p> <p>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.</p>	