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# Certificate of compliance

<b>Applicant:</b>	<b>NingBo Deye Inverter Technology Co., Ltd.</b> No. 26 South YongJiang Road, Daqi, Beilun, NingBo, China	
<b>Product:</b>	<b>Photovoltaic (PV) and battery inverter</b>	
<b>Model:</b>	<b>SUN-3K-SG04LP1-EU</b> <b>SUN-3K-SG04LP1-24-EU</b> <b>SUN-3.6K-SG04LP1-EU</b> <b>SUN-5K-SG04LP1-EU</b> <b>SUN-6K-SG04LP1-EU</b>	<b>SUN-3K-SG04LP1-24-EU-SM1</b> <b>SUN-3K-SG04LP1-EU-SM1</b> <b>SUN-3.6K-SG04LP1-EU-SM2</b> <b>SUN-5K-SG04LP1-EU-SM2</b> <b>SUN-6K-SG04LP1-EU-SM2</b>

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.

#### Applicable documents:

Decision of the Netherlands Authority for Consumers and Markets of 21 April 2016, reference ACM / DE / 2016/202151, establishing the conditions as referred to in Article 31 of the Electricity Act 1998 (Network Code Electricity)

#### 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

##### 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 and Type B plants.

At the time of issue of this certificate, the representative product listed above corresponds to the stated rules and standards.

<b>Report number:</b>	<b>ASUE-ESH-P22010033-R1</b>	<b>Certification Program:</b>	<b>NSOP-0032-DEU-ZE-V01</b>
<b>Certificate number:</b>	<b>U23-1083</b>	<b>Date of issue:</b>	<b>2023-11-28</b>

**Certification body**



Domenik Koll  
Head of Energy Systems



Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation to DIN EN ISO/IEC 17065

Testing laboratory accredited according to DIN EN ISO/IEC 17025

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH



## Annex to the EN 50549-1 certificate of compliance No. U23-1083

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### Appendix

Extract from test report according to EN 50549-1 Nr. ASUE-ESH-P22010033-R1

Type Approval and declaration of compliance with the requirements of EN 50549-1, Commission Regulation (EU) 2016/631 of 14 April 2016 and "Netcode elektriciteit" for Netherlands

<b>Manufacturer / applicant:</b>	<b>NingBo Deye Inverter Technology Co., Ltd.</b> No. 26 South YongJiang Road, Daqi, Beilun, NingBo, China
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<b>Micro-generator Type</b>	Photovoltaic and battery inverter			
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	SUN-3K-SG04LP1-EU	SUN-3K-SG04LP1-24-EU	SUN-3.6K-SG04LP1-EU	SUN-5K-SG04LP1-EU
<b>MPP DC voltage range [V]</b>	150-425			
<b>Input DC current [A]</b>	13	13	13/13	13/13
<b>Output AC voltage [V]</b>	L/N/PE 230, 50/60Hz			
<b>Output AC current [A]</b>	13,0	13,0	15,7	21,7
<b>Output power [W]</b>	3000	3000	3600	5000
<b>Max. output power [W]</b>	3300	3300	3960	5500
<b>Battery DC voltage range [V]</b>	48 (40-60)	24 (20-30)	48 (40-60)	48 (40-60)
<b>Battery charge current [A]</b>	70	140	90	120
<b>Battery discharge current [A]</b>	70	140	90	120

	SUN-6K-SG04LP1-EU	SUN-3K-SG04LP1-EU-SM1	SUN-3K-SG04LP1-24-EU-SM1	SUN-3.6K-SG04LP1-EU-SM2
<b>MPP DC voltage range [V]</b>	150-425			
<b>Input DC current [A]</b>	13/13	18		18/18
<b>Output AC voltage [V]</b>	L/N/PE 230, 50/60Hz			
<b>Output AC current [A]</b>	26,1	13,1	13,1	15,7
<b>Output power [W]</b>	6000	3000	3000	3600
<b>Max. output power [W]</b>	6600	3300	3300	3960
<b>Battery DC voltage range [V]</b>	48 (40-60)	48 (40-60)	24(20-30)	48(40-60)
<b>Battery charge current [A]</b>	135	70	140	90
<b>Battery discharge current [A]</b>	135	70	140	90

	SUN-5K-SG04LP1-EU-SM2	SUN-6K-SG04LP1-EU-SM2	--	--
<b>MPP DC voltage range [V]</b>	150-425		--	--
<b>Input DC current [A]</b>	18/18		--	--
<b>Output AC voltage [V]</b>	L/N/PE 230 50/60Hz		--	--
<b>Output AC current [A]</b>	21,8	26,1	--	--
<b>Output power [W]</b>	5000	6000	--	--
<b>Max. output power [W]</b>	5500	6600	--	--
<b>Battery DC voltage range [V]</b>	48(40-60)		--	--
<b>Battery charge current [A]</b>	120	135	--	--
<b>Battery discharge current [A]</b>	120	135	--	--

<b>Firmware version</b>	4384
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## Annex to the EN 50549-1 certificate of compliance No. U23-1083

### Appendix

Extract from test report according to EN 50549-1

Nr. ASUE-ESH-P22010033-R1

#### Description of the structure of the power generation unit:

The power generation unit is equipped with a PV and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on the inverter bridge and two series-connected relays in each line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.

#### 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.