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Potvrzení o nezávadnosti

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

Výrobek: Fotovoltaický a bateriový měnič

Model: SUN-5K-SG04LP3-EU
SUN-6K-SG04LP3-EU
SUN-8K-SG04LP3-EU
SUN-10K-SG04LP3-EU
SUN-12K-SG04LP3-EU

Střídač pro třífázové paralelní připojení k veřejné síti. Zařízení pro monitorování a odpojování sítě je nedílnou součástí výše uvedeného modelu.

Příslušné dokumenty:

Pravidla provozování distribučních soustav příloha 4 pravidla pro paralelní provoz výroben a akumulčních zařízení se sítí provozovatele distribuční soustavy, PPDS Příloha 4: 2020

Zkušební podklady:

EN 50549-1:2019, ČSN 50549-1:2019

Požadavky na paralelně připojené výrobní sítě s distribučními sítěmi - Část 1: Připojení k distribuční síti nn - Výrobní do typu B včetně

- 4.4 Normální provozní rozsah
- 4.5 Imunita vůči rušení
- 4.6 Aktivní odezva na frekvenční odchylku
- 4.7 Odezva napájení na změny napětí a změny napětí
- 4.8 EMC a kvalita energie
- 4.9 Ochrana rozhraní
- 4.10 Připojení a zahájení výroby elektrické energie
- 4.11 Ukončení a snížení činného výkonu na žádané hodnotě
- 4.13 Požadavky týkající se tolerance jedné poruchy systému ochrany rozhraní a přepínače rozhraní

DIN V VDE V 0126-1-1: 2006 (4.1 Funkční bezpečnost)

Samostatná spínací stanice mezi sítími paralelním vlastním výrobním zařízením a veřejnou sítí nízkého napětí, pozměňovací návrh 1

Nařízení komise (EU) 2016/631 ze dne 14. dubna 2016

Kterým se stanoví kodex sítě pro požadavky na připojení výroben k elektrizační soustavě. Typové schválení pro výrobní jednotky pro použití v závodech typu A a typu B.

Reprezentativní zkušební vzorek výše jmenovaného výrobku odpovídá bezpečnostně technickým požadavkům platným v okamžiku vydání tohoto certifikátu, uvedených zkušebních podkladů pro používání podle určení.

Číslo sestavy: ASUE-ESH-P22030586 **Certifikační program:** NSOP-0032-DEU-ZE-V01
Číslo certifikátu: U22-0196 **Datum vydání:** 2022-04-21

Institut pro certifikaci

Thomas Lammel



Institut pro certifikaci Bureau Veritas Consumer Products Services Germany GmbH Akreditovaným podle DIN EN ISO/IEC 17065

Zkušební laboratoř akreditovaná podle DIN EN ISO/IEC 17025

Částečné vyobrazení certifikátu vyžaduje písemný souhlas Bureau Veritas Consumer Products Services Germany GmbH



Annex to the EN 50549-1 certificate of compliance No. U22-0196

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Appendix

Extract from test report according to EN 50549-1

Nr. ASUE-ESH-P22030586

Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016

Manufacturer / applicant	NingBo Deye Inverter Technology Co., Ltd. No. 26 South YongJiang Road, Daqi, Beilun, NingBo, China			
Micro-generator Type	Photovoltaic and battery inverter			
	SUN-5K-SG04LP3-EU	SUN-6K-SG04LP3-EU	SUN-8K-SG04LP3-EU	SUN-10K-SG04LP3-EU
MPP DC voltage range [V]	200-650	200-650	200-650	200-650
Input DC voltage range [V]	160-800	160-800	160-800	160-800
Input DC current [A]	13+13	13+13	13+13	26+13
Output AC voltage [V]	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz
Output AC current [A]	7,6	9,1	12,1	15,2
Output power [W]	5000	6000	8000	10000
Battery DC voltage range [V]	40-60	40-60	40-60	40-60
Battery charge current [A]	120	150	190	210
Battery discharge current [A]	120	150	190	210
	SUN-12K-SG04LP3-EU	--	--	--
MPP DC voltage range [V]	200-650	--	--	--
Input DC voltage range [V]	160-800	--	--	--
Input DC current [A]	26+13	--	--	--
Output AC voltage [V]	3L/N/PE 400, 50Hz/60Hz	--	--	--
Output AC current [A]	18,2	--	--	--
Output power [W]	12000	--	--	--
Battery DC voltage range [V]	40-60	--	--	--
Battery charge current [A]	240	--	--	--
Battery discharge current [A]	240	--	--	--

Firmware version Beginning with V1090

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.



Shenzhen BALUN Technology Co., Ltd.

Room 104, 204, 205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China

VERIFICATION OF CONFORMITY

Certificate No.: BL-DG2141022D01

Applicant: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Manufacture: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Product: Hybrid inverter

Brand name: 

Model name: SUN-6K-SG04LP3-EU, SUN-8K-SG04LP3-EU,
SUN-10K-SG04LP3-EU, SUN-12K-SG04LP3-EU

The submitted sample of the above product has been tested according with below Standard(s):

Applied Standards:	Report No.:
IEC 61727:2004; IEC 62116: 2014; IEC 61683:1999	BL-DG2141022-B01
IEC 60068-2-1: 2007; IEC 60068-2-2: 2007	BL-DG2141022-B02
IEC 60068-2-14: 2009; IEC 60068-2-30: 2005	BL-DG2141022-B03



Tel: +86 755 66850100

Fax: +86 755 61824271

Email: qc@baluntek.com

web: www.baluntek.com



Dongguan BALUN Testing Technology Co., Ltd.
 Room 104, 204, 205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China

VERIFICATION OF CONFORMITY

Certificate No.: BL-DG21C0658D02


Applicant: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Manufacture: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Product: Hybrid inverter

Brand name: 

Model name: SUN-5K-SG04LP3-EU, SUN-6K-SG04LP3-EU,
 SUN-8K-SG04LP3-EU, SUN-10K-SG04LP3-EU,
 SUN-12K-SG04LP3-EU

The submitted sample of the above product has been tested according with below Standard(s):

Applied Standards:	Report No.:
IEC 62109-1:2010; IEC 62109-2:2011	BL-DG21C0658-B01 BL-DG21C0658-B01 attachment 1





Dongguan BALUN Testing Technology Co., Ltd.

Room 104, 204, 205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China

VERIFICATION OF CONFORMITY

Certificate No.: BL-DG21C0658D01


Applicant: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Manufacture: NingBo Deye Inverter Technology Co., Ltd.

Address: No.26 South YongJiang Road, Daqi, Beilun, NingBo, China.

Product: Hybrid inverter

Brand name: 

Model name: SUN-5K-SG04LP3-EU, SUN-6K-SG04LP3-EU,
SUN-8K-SG04LP3-EU, SUN-10K-SG04LP3-EU,
SUN-12K-SG04LP3-EU

The submitted sample of the above product has been tested according with below Standard(s) used for showing compliance with the essential requirements in the **LVD directive (2014/35/EU)** :

Applied Standards:	Report No.:
EN 62109-1:2010; EN 62109-2:2011	BL-DG21C0658-B01 BL-DG21C0658-B01 attachment 1





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Certificate of compliance

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

Product: Photovoltaic (PV) and battery inverter

Model: SUN-5K-SG04LP3-EU
SUN-6K-SG04LP3-EU
SUN-8K-SG04LP3-EU
SUN-10K-SG04LP3-EU
SUN-12K-SG04LP3-EU

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

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 V VDE V 0126-1-1:2006 (4.1 Functional safety)

Automatic disconnection device between a generator and the public low-voltage grid

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.

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-P22010034 **Certification Program:** NSOP-0032-DEU-ZE-V01
Certificate number: U22-0169 **Date of issue:** 2022-03-30

Certification body



Thomas Lammel



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. U22-0169

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Appendix
Extract from test report according to EN 50549-1
No. ASUE-ESH-P22010034

Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016

Manufacturer / applicant	NingBo Deye Inverter Technology Co., Ltd. No. 26 South YongJiang Road, Daqi, Beilun, NingBo, China
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Micro-generator Type	Photovoltaic and battery inverter			
	SUN-5K-SG04LP3-EU	SUN-6K-SG04LP3-EU	SUN-8K-SG04LP3-EU	SUN-10K-SG04LP3-EU
MPP DC voltage range [V]	200-650	200-650	200-650	200-650
Input DC voltage range [V]	160-800	160-800	160-800	160-800
Input DC current [A]	13+13	13+13	13+13	26+13
Output AC voltage [V]	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz	3L/N/PE 400, 50Hz/60Hz
Output AC current [A]	7,6	9,1	12,1	15,2
Output power [W]	5000	6000	8000	10000
Battery DC voltage range [V]	40-60	40-60	40-60	40-60
Battery charge current [A]	120	150	190	210
Battery discharge current [A]	120	150	190	210
	SUN-12K-SG04LP3-EU	--	--	--
MPP DC voltage range [V]	200-650	--	--	--
Input DC voltage range [V]	160-800	--	--	--
Input DC current [A]	26+13	--	--	--
Output AC voltage [V]	3L/N/PE 400, 50Hz/60Hz	--	--	--
Output AC current [A]	18,2	--	--	--
Output power [W]	12000	--	--	--
Battery DC voltage range [V]	40-60	--	--	--
Battery charge current [A]	240	--	--	--
Battery discharge current [A]	240	--	--	--

Firmware version	Beginning with V1090
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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.