



BUREAU
VERITAS

Certificate of compliance

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

Product: Photovoltaic (PV) inverter

Model: SUN-3K-G06P3-EU-AM2, SUN-3K-G06P3-EU-AM2-P1, SUN-4K-G06P3-EU-AM2, SUN-4K-G06P3-EU-AM2-P1, SUN-5K-G06P3-EU-AM2, SUN-5K-G06P3-EU-AM2-P1, SUN-6K-G06P3-EU-AM2, SUN-6K-G06P3-EU-AM2-P1, SUN-7K-G06P3-EU-AM2, SUN-7K-G06P3-EU-AM2-P1, SUN-8K-G06P3-EU-AM2, SUN-8K-G06P3-EU-AM2-P1, SUN-9K-G06P3-EU-AM2, SUN-9K-G06P3-EU-AM2-P1, SUN-10K-G06P3-EU-AM2, SUN-10K-G06P3-EU-AM2-P1, SUN-12K-G06P3-EU-AM2, SUN-12K-G06P3-EU-AM2-P1, SUN-15K-G06P3-EU-AM2, SUN-15K-G06P3-EU-AM2-P1, SUN-3K-G06P3-EU-BM2, SUN-3K-G06P3-EU-BM2-P1, SUN-4K-G06P3-EU-BM2, SUN-4K-G06P3-EU-BM2-P1, SUN-5K-G06P3-EU-BM2, SUN-5K-G06P3-EU-BM2-P1, SUN-6K-G06P3-EU-BM2, SUN-6K-G06P3-EU-BM2-P1, SUN-7K-G06P3-EU-BM2, SUN-7K-G06P3-EU-BM2-P1, SUN-8K-G06P3-EU-BM2, SUN-8K-G06P3-EU-BM2-P1, SUN-9K-G06P3-EU-BM2, SUN-9K-G06P3-EU-BM2-P1, SUN-10K-G06P3-EU-BM2, SUN-10K-G06P3-EU-BM2-P1, SUN-12K-G06P3-EU-BM2, SUN-12K-G06P3-EU-BM2-P1, SUN-15K-G06P3-EU-BM2, SUN-15K-G06P3-EU-BM2-P1

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

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

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-P24010376

Certificate number: U24-0636

Certification Program: NSOP-0032-DEU-ZE-V01

Date of issue: 2024-07-15

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



Appendix

Extract from test report according to EN 50549-1

No. ASUE-ESH-P24010376

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 inverter

	SUN-3K-G06P3-EU-AM2	SUN-4K-G06P3-EU-AM2	SUN-5K-G06P3-EU-AM2	SUN-6K-G06P3-EU-AM2
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	13/13	13/13	13/13	13/13
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	4,8	6,4	8,0	9,6
Rated Active Power [kW]	3	4	5	6
Max. apparent power [kVA]	3,3	4,4	5,5	6,6
	SUN-7K-G06P3-EU-AM2	SUN-8K-G06P3-EU-AM2	SUN-9K-G06P3-EU-AM2	SUN-10K-G06P3-EU-AM2
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	13/13	13/13	13/13	13/13
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	11,2	12,8	14,4	16,0
Rated Active Power [kW]	7	8	9	10
Max. apparent power [kVA]	7,7	8,8	9,9	11,0
	SUN-12K-G06P3-EU-AM2	SUN-15K-G06P3-EU-AM2	--	--
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	--	--
Max. DC voltage [V]	1100	1100	--	--
Max. input DC current [A]	13/13	13/26	--	--
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	--	--
Max. AC current [A]	19,2	24,0	--	--
Rated Active Power [kW]	12	15	--	--

Appendix

Extract from test report according to EN 50549-1

No. ASUE-ESH-P24010376

Max. apparent power [kVA]	13,2	16,5	--	--
	SUN-3K-G06P3-EU-AM2-P1	SUN-4K-G06P3-EU-AM2-P1	SUN-5K-G06P3-EU-AM2-P1	SUN-6K-G06P3-EU-AM2-P1
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	20/20	20/20	20/20	20/20
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	4,8	6,4	8,0	9,6
Rated Active Power [kW]	3	4	5	6
Max. apparent power [kVA]	3,3	4,4	5,5	6,6
	SUN-7K-G06P3-EU-AM2-P1	SUN-8K-G06P3-EU-AM2-P1	SUN-9K-G06P3-EU-AM2-P1	SUN-10K-G06P3-EU-AM2-P1
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	20/20	20/20	20/20	20/20
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	11,2	12,8	14,4	16,0
Rated Active Power [kW]	7	8	9	10
Max. apparent power [kVA]	7,7	8,8	9,9	11,0
	SUN-12K-G06P3-EU-AM2-P1	SUN-15K-G06P3-EU-AM2-P1	--	--
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	--	--
Max. DC voltage [V]	1100	1100	--	--
Max. input DC current [A]	20/20	20/26	--	--
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	--	--
Max. AC current [A]	19,2	24,0	--	--
Rated Active Power [kW]	12	15	--	--
Max. apparent power [kVA]	13,2	16,5	--	--
	SUN-3K-G06P3-EU-BM2	SUN-4K-G06P3-EU-BM2	SUN-5K-G06P3-EU-BM2	SUN-6K-G06P3-EU-BM2
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000

Appendix

Extract from test report according to EN 50549-1

No. ASUE-ESH-P24010376

Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	13/13	13/13	13/13	13/13
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	4,8	6,4	8,0	9,6
Rated Active Power [kW]	3	4	5	6
Max. apparent power [kVA]	3,3	4,4	5,5	6,6
	SUN-7K-G06P3-EU-BM2	SUN-8K-G06P3-EU-BM2	SUN-9K-G06P3-EU-BM2	SUN-10K-G06P3-EU-BM2
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	13/13	13/13	13/13	13/13
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	11,2	12,8	14,4	16,0
Rated Active Power [kW]	7	8	9	10
Max. apparent power [kVA]	7,7	8,8	9,9	11,0
	SUN-12K-G06P3-EU-BM2	SUN-15K-G06P3-EU-BM2	--	--
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	--	--
Max. DC voltage [V]	1100	1100	--	--
Max. input DC current [A]	13/13	13/26	--	--
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	--	--
Max. AC current [A]	19,2	24,0	--	--
Rated Active Power [kW]	12	15	--	--
Max. apparent power [kVA]	13,2	16,5	--	--
	SUN-3K-G06P3-EU-BM2-P1	SUN-4K-G06P3-EU-BM2-P1	SUN-5K-G06P3-EU-BM2-P1	SUN-6K-G06P3-EU-BM2-P1
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	20/20	20/20	20/20	20/20
Connection (AC)				
Output AC voltage [V]	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz	230, 3L/N/PE, 50/60Hz
Max. AC current [A]	4,8	6,4	8,0	9,6
Rated Active Power [kW]	3	4	5	6

Appendix

Extract from test report according to EN 50549-1

No. ASUE-ESH-P24010376

Max. apparent power [kVA]	3,3	4,4	5,5	6,6
	SUN-7K-G06P3-EU-BM2-P1	SUN-8K-G06P3-EU-BM2-P1	SUN-9K-G06P3-EU-BM2-P1	SUN-10K-G06P3-EU-BM2-P1
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	120-1000	120-1000
Max. DC voltage [V]	1100	1100	1100	1100
Max. input DC current [A]	20/20	20/20	20/20	20/20
Connection (AC)				
Output AC voltage [V]	230,3L/N/PE 50/60Hz	230,3L/N/PE 50/60Hz	230,3L/N/PE 50/60Hz	230,3L/N/PE 50/60Hz
Max. AC current [A]	11,2	12,8	14,4	16,0
Rated Active Power [kW]	7	8	9	10
Max. apparent power [kVA]	7,7	8,8	9,9	11,0
	SUN-12K-G06P3-EU-BM2-P1	SUN-15K-G06P3-EU-BM2-P1	--	--
Photovoltaic (DC)				
MPP DC voltage range [V]	120-1000	120-1000	--	--
Max. DC voltage [V]	1100	1100	--	--
Max. input DC current [A]	20/20	20/26	--	--
Connection (AC)				
Output AC voltage [V]	230,3L/N/PE 50/60Hz	230,3L/N/PE 50/60Hz	--	--
Max. AC current [A]	19,2	24,0	--	--
Rated Active Power [kW]	12	15	--	--
Max. apparent power [kVA]	13,2	16,5	--	--
Firmware version	5612-0326			

Description of the structure of the power generation unit:

The power generation unit is equipped with a DC 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.