



**BUREAU
VERITAS**

Certificate of compliance

Applicant: SUNGROW POWER SUPPLY CO.,LTD
No.1699 Xiyou Rd, New & High Technology Industrial Development Zone,
Hefei, 230088
P.R.China

Product: Photovoltaic (PV) inverter

Model: SG125HV
SG125HV-20

Use in accordance with regulations:

Automatic disconnection device with three-phase mains surveillance in accordance with EN50549-2:2019 for photovoltaic systems with a three-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter.

Applied rules and standards:

EN 50549-2:2019

Requirements for generating plants to be connected in parallel with distribution networks - Part 2: Connection to a MV distribution network - Generating plants 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
- 4.12 Remote information exchange

EN 50438:2013

Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks

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

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

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: SGR-ESH-P20011001

Certificate number: U20-0463

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

Date of issue:

2020-06-17

Certification body

Thomas Lammel



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

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 50549-2 Nr. SGR-ESH-P20011001

Type Approval and declaration of compliance with the requirements of EN 50549-2.

Manufacturer / applicant:	SUNGROW POWER SUPPLY CO.,LTD No.1699 Xiyou Rd, New & High Technology Industrial Development Zone, Hefei, 230088 P.R.China
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Micro-generator Type	Photovoltaic inverter			
	SG125HV	SG125HV-20		
MPP DC voltage range [V]	860-1450	860-1450		
Input DC voltage range [V]	max. 1500	max. 1500		
Input DC current [A]	max. 148	max. 148		
Output AC voltage [V]	3/PE, 600V a.c., 50/60Hz	3/PE, 600V a.c., 50/60Hz		
Output AC current [A]	max. 120	max. 120		
Output power [VA]	125	125		

Firmware version	LCD_SG125KHV_V03_B_M DSP_SG125KHV_V11_B
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Measurement period:	2020-03-23 to 2020-06-07
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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 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.

Appendix

Extract from test report according to EN 50549-2

Nr. SGR-ESH-P20011001

Setting of the interface protection:

Parameter	Max. disconnection time	Min. operate time	Trip value
Over voltage (stage 1) ^a	3s	-	230V +10% (253V)
Over voltage (stage 2)	0,2s	0,1s	230V +15% (264,5V)
Under voltage	1,5s	1,2s	230V -15% (195,5V)
Over frequency	0,5s	0,3s	50Hz +4% (52Hz)
Under frequency	0,5s	0,3s	50Hz -5% (47,5Hz)
Reconnection settings for voltage (normal operational startup)	0,85V _n (195,5V) ≤ V ≤ 1,10V _n (253V)		
Reconnection settings for frequency (normal operational startup)	49,5Hz ≤ f ≤ 50,2Hz		
Reconnection time (normal operational startup)	≥ 60s		
Reconnection settings for voltage (automatic reconnection after tripping)	0,85V _n (195,5V) ≤ V ≤ 1,10V _n (253V)		
Reconnection settings for frequency (automatic reconnection after tripping)	49,5Hz ≤ f ≤ 50,2Hz		
Reconnection time (automatic reconnection after tripping)	≥ 60s		
Active power gradient after reconnection	10% P _{E_{max}} / per minute		
Active power delivery at under frequency	electronic inverter, no active power reduction		
Power response to over frequency (frequency / droop s)	50,2Hz / 5%		
Permanent DC-injection	0,5% of rated inverter output current or 20mA		
Rate of change of frequency (ROCOF)	2Hz/s		
Loss of mains according EN 62116 (LoM)	2,0s		

Note:

^a Over voltage – stage1: 10 min-mean-value corresponding to EN 50160.

Default interface setting according to EN 50438:2013 are used.

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 50549-2:2019. 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 of the EN 50549-2:2019.