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Certificate of compliance

Applicant: SMA Solar Technology AG
Sonnenallee 1, 34266 Niestetal
Germany

Product: Photovoltaic inverter

Model: STP 125-70

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

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:

Green Power Denmark:2022

Guide for connection of power-generating plants to the low-voltage grid ($\leq 1\text{kV}$)
Plant category A plant up to 125kW

- 4. Requirements for Type A power-generating plants
- 4.1 Tolerance of Frequency and voltage deviations
- 4.2 Start-up and reconnection of a power-generating plant
- 4.3 Active power control
- 4.4 Reactive power control
- 4.5 Protection
- 4.6 Power Quality
- 4.7 Exchange of Information

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-P24032189-R1

Certificate number: U24-1116

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

Date of issue: 2025-01-08

Accreditation



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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Annex certificate of conformity No. U24-1116

Extract from test report SGR-ESH-P24032189-R1 issued by a testing laboratory accredited by “Deutsche Akkreditierungsstelle GmbH (DAkkS)” according to ISO/IEC 17025. The accreditation is only valid for the scope listed in the annex of the accreditation certificate “D-PL-12024-03-04”.

Type Approval and declaration of compliance with the requirements of Green Power Denmark				
Manufacturer	SMA Solar Technology AG Sonnenallee 1, 34266 Niestetal Germany			
Product type	Photovoltaic inverter			
Static converter model	STP 125-70	--	--	--
Input DC (photovoltaic)				
MPP voltage range [V]	180-1000	--	--	--
Max. input voltage [V]	1100	--	--	--
Max. input current per MPPT [A]	30	--	--	--
Output AC				
Rated AC voltage [V]	3L/N/PE, 230/400, 50/60Hz	--	--	--
Rated output current [A]	181,1	--	--	--
Max. output current [A]	181,1	--	--	--
Nom. converter output (P _{NINV}) [kW]	125,0	--	--	--
Rated apparent power [kVA]	125,0	--	--	--
Interface protection system and interface switch (Network and system protection “NS-protection”)				
Type of protection	Integrated NS-protection			
Assigned to generation unit type	STP 125-70			
Integrated interface switch	Type of switching equipment 1: Relay (Model 511Z) Type of switching equipment 2: Relay (Model 511Z) Note: The output is switched off by the inverter bridge and two relay in series in each line and neutral.			
Firmware version	4.X.X.R Note: The tests were performed with firmware version 4.0.0.R Changes in the firmware version on position 4.X.X have no effect on the required electrical properties. "X" could be any number (or sign) higher (newer) than the tested version.			
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.			

Setting of the parameter values for DK1 and DK2		
	Settings for DK1	Setting for DK2
	LFSM-O	
Threshold frequency [Hz]	50,2	50,5
Droop [% of P _n]	5% (40% P _n /Hz)	4% (50% P _n /Hz)
Intentional Delay	500ms	500ms
	Reactive Power	
	Q fix	Q fix
Active/disabled [On/Off]	On	On
Q setpoint [VAR]	0	0
	cos φ fix	
Active/disabled [On/Off]	Off	Off
PF setpoint [PF]	1	1
	cos φ (P)	
Active/disabled [On/Off]	Off	Off
cos φ (P) P1 [% of P _n]	0	0
cos φ (P) PF1 [PF]	1	1
cos φ (P) P2 [% of P _n]	50	50
cos φ (P) PF2 [PF]	1	1
cos φ (P) P3 [% of P _n]	100	100
cos φ (P) PF3 [PF]	0,9 inductive	0,9 inductive
cos φ (P) Lockin [% of U _n]	105	105
cos φ (P) Lockout [% of U _n]	100	100
	Connection and Reconnection	
Gradient [% of P _n /min]	20	20
Observation time [seconds]	180	180
U _{min} [% of U _n]	85	85
U _{max} [% of U _n]	110	110
f _{min} [Hz]	47,5	47,5
f _{max} [Hz]	50,2	50,5



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	Settings for DK1	Setting for DK2
	System Protection	
f> [s]	0,2	0,2
f> [Hz]	51,5	51,5
f< [s]	0,2	0,2
f< [Hz]	47,5	47,5
U> [s]	60	60
U> [% of U _n]	110	110
U>> [s]	0,2	0,2
U>> [% of U _n]	115	115
U< [s]	50	50
U< [% of U _n]	85	85
	Loss of Mains Detection	
U<< [s]	0,2	0,2
U<< [% of U _n]	80	80
ROCOF [s]	0,08	0,08
ROCOF [Hz/s]	2,5	2,5

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.