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Type Certificate

Applicant SMA Solar Technology AG
Sonnenallee 1
34266 Niestetal
Germany

Type of product	Grid connected photovoltaic Storage Inverter	SUNNY TRIPOWER STORAGE X	Sunny Island X
		STPSxx-20	SIxx-20
Technical data	Max. apparent power	50 kVA	
	Nominal output AC voltage:	400 V (3~+N+PE)	
	Nominal frequency	50 Hz	
	Max. active power P _E max / Max. active power peak P ₆₀₀ :	(for details see <i>Supplement of Certificate</i> on p.2)	
Firmware version	(main processor) 3.01.xx.R Note: "xx" can be any number, changes on this position indicate no certification relevant modifications		
Validated model	Model file	STPSx_10_RMS_Lib_V6016B02.dll (Inverter control dll)	
	Identification number (MD5)	2bad809cd6beca8c316fafa86e2cea96	

Connection rule VDE-AR-N 4110:2023-09 – Technical requirements for the connection and operation of customer installations to the medium voltage network (TCR medium voltage) [1]

Applicable standards / directives Technical guidelines: FGW TR 3 Rev. 25 [2], FGW TR 4 Rev. 09 [3], FGW TR 8 Rev. 09 [4]

The power generating units, stated in the certificate, were tested and certified according to the technical guidelines referenced to the grid connection regulation. The electrical characteristics fulfil the requirements of the grid connection regulation:

- Quasi-steady-state operation
- Dynamic network stability (reactive current characteristic according to TCR medium voltage & TCR high voltage)
- Active power output and network security management
- Active power adjustment as a function of the grid frequency
- Protection technology and protection settings on generating unit level.
- Power quality

Restrictions or deviations: see supplement of certificate

The manufacturer has provided proof of certification of the quality management system of his production facility in accordance with ISO 9001

The certificate contains the following information:

- technical data of the power generating unit, the auxiliary equipment used and the software version used;
- schematic structure of the power generating units;
- summarized information on the properties of the power generating unit.

The certificate is comprised of 64 pages (including Annex of 63 pages).

Report number: 22TH0488

Certificate number: U24-1127_0

Issued: 2024-11-27

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

Valid until: 2029-11-26

Accreditation

Certification body

Georg LORITZ
Lab Supervisor Energy Systems



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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Supplement of certificate (U24-1127_0)

Type of product	Grid connected photovoltaic Storage Inverter	STPSxx-20		SIxx-20	
		STPS50-20	STPS30-20	SI50-20	SI30-20
Technical data	Nominal active output power ¹⁾	50 kW	30 kW	50 kW	30 kW
	Rated / Max. apparent power	50 kVA	30 kVA	50 kVA	30 kVA
	Nominal voltage	400 V (3~+N+PE)			
	Nominal frequency	50 Hz			
	Max. active power $P_{E_{max}}$ / Max. active power peak P_{600} ^{2), 3)}	50,38	30,23	50,38 ¹⁾	30,23 ¹⁾

Note:

- ¹⁾ The nominal active output power P_n is just a nominal value defined by manufacturer. Due to spot testing the tests marked were not conducted. The stated results were transferred from the type STPS50-20 and STPS30-20 to SI50-20 and SI30-20 respectively according to measurements of test 4.1.1, FGW TR 3 [2].
- ²⁾ The $P_{E_{max}}$ is the highest 10-min mean of the active power of a power generating unit defined according to VDE-AR-N 4110:2018 [1]. The P_{600} is the maximum active power peak of the overall system (averaging period 10 min) defined according to FGW TR 3 Rev. 25 [2].
- ³⁾ The stated measurement results were determined according to test 4.1.1, FGW TR 3 Rev. 25 [2].

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Restrictions, deviations or notes on usage

1. The PGUs in the series do not provide test terminals for on-site testing. For necessary on-site testing, a separate test terminal must be installed additionally.

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