

Unit Certificate



FGW TG8 EZE

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ID 1900000000

No.: 968/GI 2098.04/25

Grid Integration of Distributed Energy Resources

Certificate Holder

SMA Solar Technology AG
Sonnenallee 1
34266 Niestetal
Germany

Subject

Grid-Connected Photovoltaic Inverter
STP 125-70

Codes and Standards

VDE-AR-N 4110:2023
VDE-AR-N 4120:2018
FGW TG 3:2023 Revision 26

FGW TG 4:2023 Revision 10
FGW TG 8:2019 Revision 9

Scope and result

The power generating units mentioned above meet the requirements of standards listed above.

The conformity is declared by following documents:
Evaluation Report-No.: 968/GI 2098.04/25, 2025-12-03
Validation Report-No.: 968/GI 2098.02/24, 2025-01-15
Test Report No.: CN23HR1H 002, dated 2025-07-20

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

Specific provisions

The deviations and conditions for conformity according to the evaluation report must be observed. The corresponding conditions and deviations are listed on page 3 and 4 of the certificate.

Valid until 2029-11-06

The assessment report-no.: 968/GI 2098.04/25 dated 2025-12-03 is an integral part of the certificate. This certificate is specifically valid for the above mentioned system only. It becomes invalid, if any unapproved changes are implemented without prior assessment/approval by the certification body. Authenticity and validity of this certificate can be verified through the above indicated QR-code or at <http://www.fs-products.com>.

TÜV Rheinland Industrie Service GmbH

Bereich Automation
Funktionale Sicherheit

Am Grauen Stein, 51105 Köln

Köln, 2025-12-03

Certification Body Safety & Security for Automation & Grid

Armin Kerperin

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Technical data of the PGU:

Typ:	STP 125-70
Rated apparent power:	125 kVA
Rated active power:	125 kW
Max. active power (P_{600}):	124.47 kW
Rated voltage:	400 V _{AC}
Nominal frequency:	50/60 Hz
Minimum required short-circuit power (only for type 1 PGU):	N/A
Firmware-Version:	4.0.0.4 or 4.01.12.R

Validated Simulation Model:

Reference name: VDE_STP 125-70_Pf2022_240624.pfd

MD5 Checksum: 706826D6133297F072A26D5DEBF467F4

Simulation platform: DIgSILENT PowerFactory 2022

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The following deviations and restrictions apply:

☐ None

☒ The following:

Proof	Deviation / Restriction
Grid perturbations – switching operations	--
Grid perturbations – asymmetries	--
Grid perturbations – flicker	--
Grid perturbations – Harmonics, interharmonics and supraharmonics	--
Quasi-static operation	--
Pole angle and grid oscillations	--
Reactive power supply	--
Method for reactive power supply	The deviations and limitation according to chapter 4.3 have to be observed and evaluated during system certification.
Active power – general and grid security management	--
Active power output dependent on grid frequency	The function tests with regard to compensation to ensure substation supply operation or rapid resynchronization were not performed during unit certification and have to be evaluated as part of system certification, if required.
Connecting – limit values for connection without prior protection tripping	--
Connecting – limit values for connection with prior protection tripping	--
Connecting – Active power gradient	--
FRT – dynamic grid support	--
FRT – Contribution to short-circuit current	--

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Proof	Deviation / Restriction
Protection technology and settings – readability of the protection settings	As the unit does not contain a display, this has to be considered on project level. With regard to the requirements of the corresponding grid provider, an appropriate device to check the protection settings has to be provided on demand or should be stored on site.
Protection technology and settings – Test terminal block	As the unit does not provide a test terminal block, this has to be installed separately, if required.
Protection technology and settings – Setting range	In some cases, the measured tripping time was less than the tripping time set. This has to be considered accordingly during system certification.
Protection technology and settings – Self-protection	--
Protection technology and settings – Accuracy	--
Protection technology and settings – Independence of protection functions	--
Protection technology and settings – auxiliary power supply	--
Protection technology and settings – section switch	--
Simulation model (validation)	The validated simulation model of the PGUs specified shall be used in the certified version

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Schematic overview of the PGU:

