

Unit Certificate



FGW TG8 EZE

www.tuv.com
ID 190000000

No.: 968/GI 1519.01/22

Grid Integration of Distributed Energy Resources

Certificate Holder	Sungrow Power Supply Co., Ltd. No.1699 Xiyou Rd.,New & High Technology Industrial Development Zone, Hefei 230088 Anhui P.R. China	Manufacturer	see certificate holder
Subject	Grid-Connected PV Inverter SG25CX-P2, SG30CX-P2, SG33CX-P2, SG36CX-P2, SG40CX-P2, SG50CX-P2		
Codes and Standards	VDE-AR-N 4110:2018 FGW TR 8:2019 Revision 9	FGW TR 4:2019 Revision 9 FGW TR 3:2018 Revision 25	
Scope and result	The power generating units mentioned above meet the requirements of VDE-AR-N 4110:2018-11. The conformity is declared by following documents: Evaluation Report-No.: 968/GI 1519.01/22, dated 07.10.2022 Validation Report-No.: 968/GI 1519.00/22, dated 07.10.2022 Test Report No.: CN22A11D 001, dated 09.06.2022 The manufacturer has provided proof of certification of the quality management system of his production facility in accordance with ISO 9001 or is subject to production monitoring.		
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 2 of the certificate.		
Valid until	2027-10-07		

The issue of this certificate is based upon an evaluation in accordance with the Certification Program CERT GI3 V1.0:2017 in its actual version, whose results are documented in Report No. 968/GI 1519.01/22 dated 2022-10-07. 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, 2022-10-07

Certification Body Safety & Security for Automation & Grid

M. Sc. Pascal Krey

Unit Certificate

Nr.: 968/ GI 1519.01/22

Grid Integration of Distributed Energy Resources

Technical data of the PGU:

Typ:	SG25CX-P2	SG30CX-P2	SG33CX-P2	SG36CX-P2	SG40CX-P2	SG50CX-P2
Max. apparent power:	27.5 kVA	30.0 kVA	36.3 kVA	40.0 kVA	44.0 kVA	55.0 kVA
Rated active power:	25.0 kW	30.0 kW	33.0 kW	36.0 kW	40.0 kW	50.0 kW
Max. active power (P_{600}):	27.52 kW	30.02 kW	36.32 kW	39.62 kW	44.02 kW	55.03 kW
Rated current:	41.8 A	50.2 A	55.2 A	60.2 A	66.9 A	83.6 A
Rated voltage:	400 V _{AC}					
Nominal frequency:	50 Hz / 60 Hz					
Minimum required short-circuit power (only for type 1 PGU):	N/A					
Software-Version:	LCD_EMERALD-S_V11_V01_A; MDSP_EMERALD-S_V11_V01_A					

Validated Simulation Model:

Reference name: VDE_SG50_40_36_33_30_25CX-P2_P2020_V30.pfd

MD5 Checksum: E89F71ED1A4C2213ED2A64F7C99DEF3B

Simulation platform: DIgSILENT PowerFactory 2020

The following deviations and restrictions apply:

None

The following:

- The certified product does not provide a test terminal. A connecting terminal plate has to be installed separately, if necessary.
- It is not possible that protective disconnection functions can be parameterized and readable directly on the machine, without using any additional device. An appropriate device to check the protection settings has to be provided on demand or should be stored on site.

Unit Certificate

Nr.: 968/ GI 1519.01/22

Grid Integration of Distributed Energy Resources

- The PGU contains one single interface for active power setpoint by grid operator or any different third party (e.g. direct marketer). Separate implementation of the interfaces for the grid provider specification and other setpoint specifications, including implementation of the lowest value in accordance with VDE-AR-N 4110, must therefore be implemented at the PGS level (e.g. in the PGS controller). This must be considered accordingly during system certification.
- In some cases the measured tripping time was less than the setting time. This has to be considered for the parameterization of the protection setting within system certification.
- If a k-factor > 4 has to be adjusted in the PGU or PGS simulation model, the short circuit power of the grid has to be at least $7 \times S_{PGS}$. For all other cases a short circuit power of the grid of $5 \times S_{PGS}$ is sufficient. This has to be considered for grid simulations.
- The correct parameterization of the simulation model (e.g. maximum current I_{max} , dynamic grid support) has to be adapted project specific according to the model documentation
- The validated simulation model of the PGUs shall be used in the certified version (see table for details on file name and check sum (MD5))

Schematic overview of the PGU:

