Unit Certificate

FGW TG8 EZE

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No.: 968/GI 2226.01/25

Grid Integration of Distributed Energy Resources

Certificate Holder	GoodWe Technologies Co., Ltd. No. 90 Zijin Rd., New District, Suzhou, 215011 P.R. China
Subject	Hybrid Inverter GW40K-ET-10, GW50K-ET-10
Codes and Standards	VDE-AR-N 4110:2023 VDE-AR-N 4120:2018 FGW TG 4:2023 Revision 10 FGW TG 3:2023 Revision 26 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 2226.01/25, 2025-06-11 Validation Report-No .: 968/GI 2226.00/25, 2024-06-11 Test Report No .: CN24035M 001, dated 2024-09-01 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 and 3 of the certificate.

Valid until 2030-06-11

The issue of this certificate is based upon an evaluation in accordance with the Certification Program CERT GI3 V5.0:2021-11 in its actual version, whose results are documented in Report No. 968/GI 2226.01/25 dated 2025-06-11. 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.

Köln, 2025-06-11

TÜV Rheinland Industrie Service GmbH
Bereich Automation
Funktionale Sicherheit
Am Grauen Stein, 51105 Köln

Certification Body Safety & Security for Automation & Grid

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DAkkS Deutsche Akkreditierungsstelle D-ZE-11052-02-02

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Unit Certificate

Nr.: 968/GI 2226.01/25 Grid Integration of Distributed Energy Resources

Technical data of the PGU:

Typ:	GW40K-ET-10	GW50K-ET-10
Rated apparent power:	40 kVA	50 kVA
Rated active power:	40 kW	50 kW
Max. active power (P_{600}):	39.8 kW	49.768 kW
Rated voltage:	380/400 V_{AC}	380/400 V_{AC}
Nominal frequency:	50 Hz / 60 Hz	50 Hz / 60 Hz
Minimum required short-circuit power (only for type 1 PGU):	N/A	N/A
Software-Version:	010109	

Validated Simulation Model:

Reference name: GW40-50K-ET-10_VDE_V2_Encrypted.pfd

MD5 Checksum: 9616a79f45c7ae1d5ad00665c40a8606

Simulation platform: DIgSILENT PowerFactory 2023 SP5

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Nr.: 968/GI 2226.01/25 Grid Integration of Distributed Energy Resources

The following deviations and restrictions apply:

☐ **None**

☒ **The following:**

- The deviations and limitations according to chapter 4.3.2. have to be observed and evaluated during system certification.
  - To meet the PT1 requirements according to VDE-AR-N 4120 [N5] and VDE-AR-N 4130 [N6], an external PGS controller with valid component certificate is required. This has to be implemented on PGS level and evaluated during system certification.
  - An external interface for specifying the reference voltage U/Uc is not implemented. If required, this has to be implemented on PGS level (e.g. via PGS controller).
  - The PGU control only supports six reference points for Q(P) control. If more reference points are needed, the Q(P) control must be implemented at PGS level (e.g. by PGS controller).
  - To meet the Fixed Q control & Fixed cosφ requirements according to VDE-AR-N 4120 [N5], an external PGS controller is required.
- 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.
- According to VDE-AR-N 4120, the reconnection shall also be possible after external release signal. This is not implemented in the PGU and therefore must be implemented on PGS level(e.g. via intermediate protection device and PGS controller) and be evaluated accordingly during system certification.
- 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.
- The certified product does not provide a test terminal. A connecting terminal plate has to be installed separately, if necessary. Alternatively, this requirement can be fulfilled on PGS level through an intermediate decoupling protection device with valid component certificate according to VDE-AR-N 4110 or VDE-AR-N 4120 and separate circuit breaker.

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Unit Certificate

Nr.: 968/GI 2226.01/25 Grid Integration of Distributed Energy Resources

- The validated simulation model of the PGUs specified shall be used in the certified version (see information above for details on file name and check sum (MD5)).
- Active power priorization with regard to primary power supply has to be implemented on PGS level (e.g. by PGS-controller) and be evaluated as part of system certification, if required.
- 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.
- **As part of the certification process, the two hybrid inverter types were considered without the optionally available STS module.**

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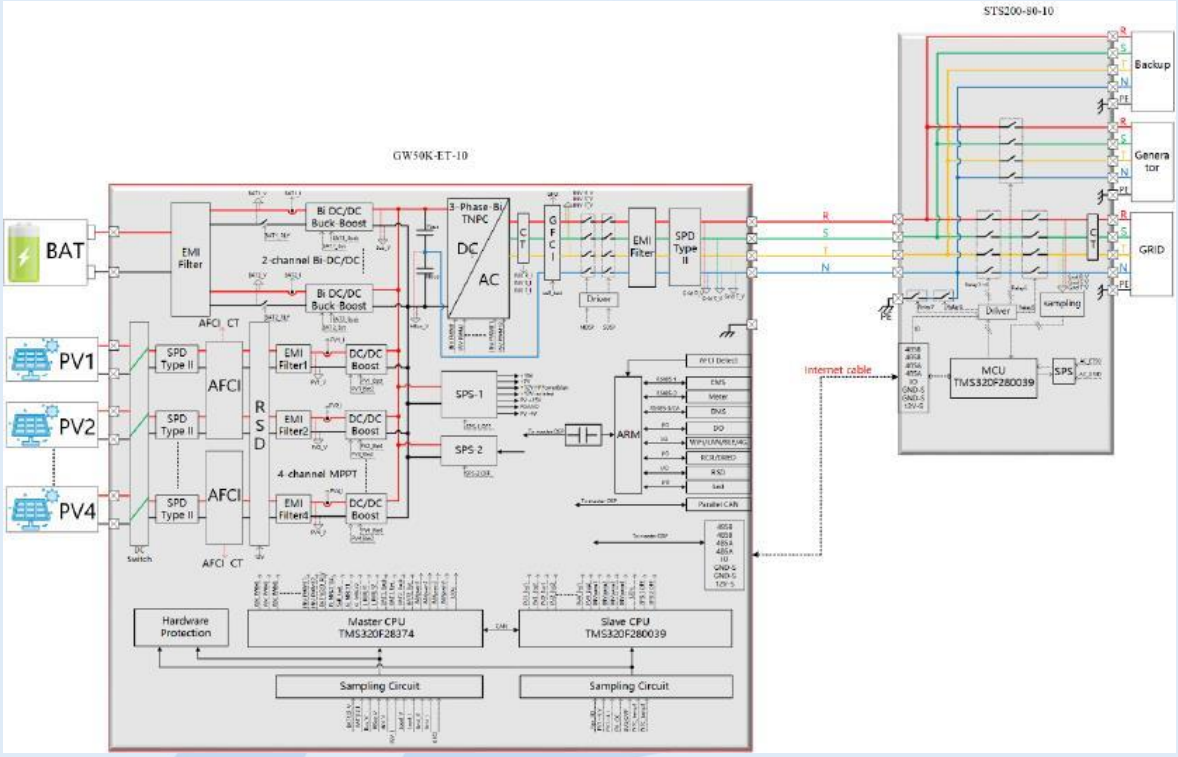
Unit Certificate

Nr.: 968/GI 2226.01/25 Grid Integration of Distributed Energy Resources

Schematic overview of the PGU:

As part of the certification process, the two hybrid inverter types GW40K-ET-10 and GW50K-ET-10 were considered **without** the optionally available STS module.



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