Unit Certificate

FGW TG8 EZE

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No.: 968/GI 1319.04/25 Grid Integration of Distributed Energy Resources

Certificate Holder	KOSTAL Solar Electric GmbH Hanferstr. 6 79108 Freiburg Germany
Subject	Grid-Tied Solar Inverter **PIKO CI 50, PIKO CI 60**
Codes and Standards	VDE-AR-N 4110:2023 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 4110:2023-09. The conformity is declared by following documents: Report-No.: 968/GI 1319.04/25, dated 2025-01-24 Validation Report-No.: 968/GI 1319.03/25, dated 2025-01-24 Test Report No. CN21FTOE 002, dated 2024-11-10 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 2026-09-10

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 1319.04/25 dated 2024-01-24. 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, 2025-01-24

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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Unit Certificate

Nr.: 968/GI 1319.04/25 Grid Integration of Distributed Energy Resources

Technical data of the PGU:

Typ:	PIKO CI 50	PIKO CI 60
Rated apparent power:	55 kVA	66 kVA
Rated active power:	50 kW	60 kW
Max. active power (P_{600}):	52.793 kW	63.351 kW
Rated voltage:	400 V_{AC}	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:	A1 (Firmware)	

Validated Simulation Model:

Reference name: Kostal_rel_v3_Encrypted.pfd

MD5 Checksum: 64d7f045ea523a4af1687c5b776fb317

Simulation platform: DIgSILENT PowerFactory 2023 SP5

Unit Certificate

Nr.: 968/GI 1319.04/25 Grid Integration of Distributed Energy Resources

The following deviations and restrictions apply:

☐ **None**

☒ **The following:**

- A voltage deadband cannot be set for Q(U)-control. If required, this must be implemented on PGS level (e.g. via PGS controller).
- An external interface for specifying the reference voltage U/Uc is not implemented for Q(U)-control. If required, this must be implemented on PGS level (e.g. via PGS controller).
- The PGU control only supports four reference points for Q(P) control. If more reference points are needed, the Q(P) control must be implemented on PGS level (e.g. by PGS controller).
- 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.
- To avoid exceeding the limit value of 10% $P_{b\ inst}$/min for P(f) control, no gradient > 9% should be set. This point must be considered accordingly in the system certification.
- The certified product does not provide a test terminal. A connecting terminal plate must 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 and separate circuit breaker.
- As the unit does not contain a display, this has to be considered on project level. Regarding 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 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)).

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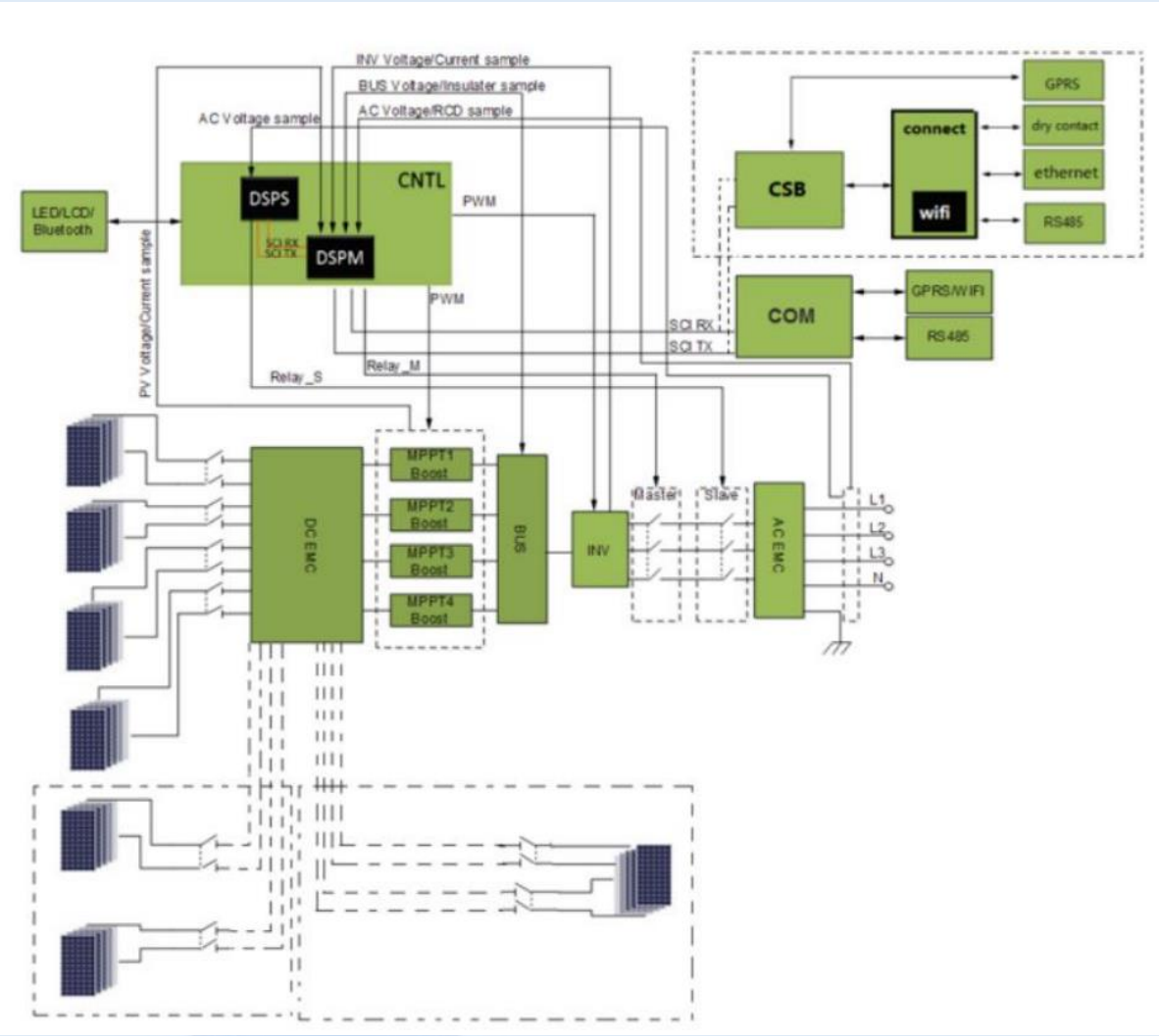
Schematic overview of the PGU:



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