

# Unit Certificate



FGW TG8 EZE

www.tuv.com  
ID 1900000000

No.: 968/GI 2099.01/24

Grid Integration of Distributed Energy Resources

## Certificate Holder

KOSTAL Solar Electric GmbH  
Hanferstr. 6  
79108 Freiburg  
Germany

## Subject

Grid-Connected Photovoltaic Inverter  
PIKO CI 100

## 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.

The conformity is declared by following documents:

Evaluation Report-No.: 968/GI 2099.01/24, 2024-08-27

Validation Report-No.: 968/GI 1915.00/24, 2024-03-05

Test Report No.: CN23WHMH 001, dated 2023-07-14

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 2029-03-08

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 2099.01/24 dated 2024-08-26. 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, 2024-08-27

Certification Body Safety & Security for Automation & Grid

Dipl.-Ing. Marco Klose

[www.fs-products.com](http://www.fs-products.com)  
[www.tuv.com](http://www.tuv.com)



**TÜVRheinland®**  
Precisely Right.

# Unit Certificate

Nr.: 968/GI 2099.01/24

Grid Integration of Distributed Energy Resources

## Technical data of the PGU:

Typ:	PIKO CI 100
Max. apparent power:	111 kVA
Rated active power:	100 kW
Max. active power ( $P_{600}$ ):	108.96 kW
Rated current:	144.9 A <sub>AC</sub>
Rated voltage:	400 V <sub>AC</sub>
Nominal frequency:	50 Hz / 60 Hz
Minimum required short-circuit power (only for type 1 PGU):	N/A
Software-Version:	C10001

## Validated Simulation Model:

**Reference name:** 4110\_Model\_1\_24\_Rev1(sub).pfd

**MD5 Checksum:** 75F3BF0F620F78D2C50F1ACF7E24F8A0

**Simulation platform:** DIgSILENT PowerFactory 2023 SP2 (x64)

## The following deviations and restrictions apply:

None

The following:

- 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.

# Unit Certificate

Nr.: 968/GI 2099.01/24

Grid Integration of Distributed Energy Resources

- Minimum and maximum gradient of the active power change: If a range for the minimum and maximum gradient of the active power change in the range of 0.33 - 0.39 % PrE/s or 0.60 - 0.66 % PrE/s is required, it therefore must be implemented at the PGS level (e.g. in the PGS controller). This must be considered accordingly during system certification.
- 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 VDE-AR-N 4110 and separate circuit breaker.
- 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:

