



Intelligent  
verbinden.

## Certificates

PIKO-Inverter

3.0 | 3.6 | 4.2 | 5.5 | 8.3 | 10.1

## EU Declaration of Conformity

The company

KOSTAL Solar Electric GmbH  
Hanferstraße 6  
79108 Freiburg i. Br., Deutschland

hereby declares that the inverters

**PIKO 3.0, PIKO 3.6, PIKO 4.2, PIKO 5.5, PIKO 8.3, PIKO 10.1**

and

**PIKO 3.0 DCS, PIKO 3.6 DCS, PIKO 4.2 DCS, PIKO 5.5 DCS,  
PIKO 8.3 DCS, PIKO 10.1 DCS**

to which this declaration refers, conform to the following guidelines and standards.

### **EMC Directive 2004/108/EEC**

DIN EN 61000-3-2:2006 (Harmonic currents)

EN 61000-3-3:1995 + A1:2001 + A2:2005 (Flicker)

DIN EN 61000-6-2:2005 (Interference resistance for industrial environments)

DIN EN 61000-6-3:2007 (Interference emission for domestic environments)

### **2006/95/EEC Low Voltage Directive**

DIN EN 50178:1998 (Electronic devices in high voltage systems)

This declaration applies to all identical copies of this product. This declaration loses its validity if the device is modified or incorrectly connected.

**KOSTAL Solar Electric GmbH – 2009-08-28**



Werner Palm  
(managing director)



**BUREAU  
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## Certificate of compliance

**Applicant:** **KOSTAL Solar Electric GmbH**  
Hanferstrasse 6  
79108 Freiburg  
Germany

**Product:** **Automatic disconnection device between a generator and the public low-voltage grid**

**Model:** **PIKO 3.0, PIKO 3.6, PIKO 4.2, PIKO 5.5, PIKO 8.3, PIKO 10.1**

**Use in accordance with regulations:**

Automatic disconnection device with three-phase (PIKO 3.0/3.6 single-phase) mains surveillance in accordance with DIN V VDE V 0126-1-1:2006-02 for photovoltaic systems with a three-phase (PIKO 3.0/3.6 single-phase) parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter. This serves as a replacement for the disconnection device with insulating function which the distribution network provider can access at any time.

**Applied rules and standards :**

DIN V VDE V 0126-1-1 (VDE V 0126-1-1):2006-02 and „Generator at the public low-voltage grid, 4th edition 2001, guideline for connection and parallel operation of generators in the public low-voltage grid“ with VDN additions (2005) from the German Electricity Association (VDEW) and Association of network operator (VDN).

The safety concept of an aforementioned representative product corresponds at the time of issue of this certificate of valid safety specifications for the specified use in accordance with regulations.

**Report number:** **05KFS170-VDE0126**  
**07THS186-VDE0126**  
**09TH0062-VDE0126**

**Certificate nummer:** **U09-045**

**Date of issue:** **2009-03-31**

**Valid until:**

**2012-03-31**

Andreas Aufmuth

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## Certificate of compliance

**Applicant:** KOSTAL Solar Electric GmbH  
Hanferstrasse 6  
79108 Freiburg  
Germany

**Product:** Automatic disconnection device between a generator  
and the public low-voltage grid

**Model:** PIKO 3.0, PIKO 3.6

**Use in accordance with regulations:**

Automatic disconnection device with single-phase mains surveillance in accordance with Engineering Recommendation G83/1 for photovoltaic systems with a single-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter. This serves as a replacement for the disconnection device with isolating function that can access the distribution network provider at any time.

**Applied rules and standards :**

DIN V VDE V 0126-1-1:2006-02 (Redundancy) and Engineering Recommendation G83/1.

The safety concept of an aforementioned representative product corresponds at the time of issue of this certificate of valid safety specifications for the specified use in accordance with regulations.

**Report number:** 09TH0062-G83  
**Certificate number:** U11-023  
**Date of issue:** 2011-01-19      **Valid until:** 2014-01-19

Achim Hänchen  
**CERTIFICATION**

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## Certificate of compliance

**Applicant:** KOSTAL Solar Electric GmbH  
Hanferstrasse 6  
79108 Freiburg  
Germany

**Product:** Disconnection device for PV generators

**Model:** Elektronischer DC-Freischalter DCS

**Use in accordance with regulations:**

Disconnection between a solar inverter and a photovoltaic generator

**Applied rules and standards :**

In dependence on

**IEC 60947-3:1999 + Corrigendum:1999 + A1:2001 + Corrigendum 1:2001 + A2:2005**  
**DIN EN 60947-3; VDE 0660-107:2006-03**

"Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units"

and

**IEC 60364-7-712:2002-05**  
**DIN VDE 0100-712:2006-06**

"Electrical Installations of Buildings - Part 7-712: Requirements for Special Installations or Locations - Solar Photovoltaic (PV) Power Supply Systems"

The safety concept of an aforementioned representative product corresponds at the time of issue of this certificate of valid safety specifications for the specified use in accordance with regulations.

**Report number:** 09TH0063-IEC60947  
**Certificate nummer:** U09-054  
**Date of issue:** 2009-03-31      **Valid until:** 2012-03-31

Andreas Aufmuth

## **Manufacturer's declaration**

### **for the operation of PIKO 3.0 and PIKO 3.6 single-phase feed-in solar inverters in photovoltaic systems with type A residual current protection switches:**

The KOSTAL PIKO solar inverters from the above-mentioned range can be used to safeguard the grid supply with FI protection switches of the type A and to ensure a trigger threshold of  $I = 100 \text{ mA}$ .

A residual-current circuit-breaker (Type AC) is sufficient for the monitoring from the inverter to the building connection point.

### **for the operation of the PIKO 4.2, PIKO 5.5, PIKO 8.3, PIKO 10.1 three-phase in-feed solar inverters in photovoltaic systems with residual protection switches of the type A:**

The KOSTAL PIKO solar inverters of the above-mentioned range supply power to the grid symmetrically via three network phases.

The conversion topology developed for this is characterised by a constant supply of power from the PV generator to the grid, which ensures maximum operation reliability.

Permanent residual current is principally avoided due to the inverter's operating features. Switching to the mains grid only takes place after an automatic inspection to ensure sufficient insulation of the PV generator to the grid.

A fault in the system would also lead to a fault in the supply of direct current and is immediately prevented by the redundant internal residual current monitoring unit (RCMU) which disconnects it from the grid.

The type A residual current devices (RCDs) also installed externally on the grid side are not disrupted due to the inverter in the monitoring unit.

The trigger level for operation of 1-3 inverters is 100 mA. For operation of more than 3 inverters, the disconnection threshold is 300 mA.

KOSTAL solar inverters conform to the following standards:

- DIN VDE 0100-712
- IEC 60364-7-712
- CEI 64-8/7

**KOSTAL Solar Electric GmbH**

**Freiburg, 03.03.2011**



**Werner Palm**  
**Geschäftsführer**

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