



**BUREAU
VERITAS**

Certificate of compliance

Applicant: REFU Elektronik GmbH
Marktstraße 185
72793 Pfullingen
Germany

Product: Photovoltaic inverter

Model: REFUsol 13K (867P013), REFUsol 17K (867P017)
REFUsol 20K (867P020), REFUsol 23K (867P023)

Use in accordance with regulations:

The inverters are tested for functional safety, grid protection, specified environmental influences and efficiency. For detailed information, please watch the corresponding test reports.

Applied rules and standards:

IEC 61727:2004	Characteristics of the utility interface
IEC 62116:2008	Islanding prevention measures for utility-interconnected photovoltaic inverters
IEC 62109-1:2010	Safety of power converters for use in photovoltaic power systems Part 1
IEC 62109-2:2011	Safety of power converters for use in photovoltaic power systems Part 2
IEC 60068-2-1:2007	Environmental testing - Part 2-1: Tests - Test A: Cold
IEC 60068-2-2:2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat
IEC 60068-2-6:1995	Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)
IEC 60068-2-14:2009	Environmental testing – Part 2-14: Tests – Test N: Change of temperature
IEC 60068-2-27:2009	Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock
IEC 60068-2-30:2005	Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12h + 12 h cycle)
IEC 60068-2-75:1997	Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests (IEC 62262:2002 – IK code)
IEC 60068-2-78:2001	Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state
IEC 61683:1999	Photovoltaic systems – Power conditioners – Procedure for measuring efficiency
IEC 61000-6-2:2005	Electromagnetic compatibility (EMC) - Generic standards – Immunity for industrial environments
IEC 61000-6-3:2007 +A1:2011	Electromagnetic compatibility (EMC) - Generic standards – Emission standard for residential, commercial and light-industrial environments
IEC 60529:1989 + A1:1999	Degrees of protection provided by enclosures (IP Code), IP65

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

Report number: 14TH0086-IEC61727_2; 14TH0086-IEC62109-1_3;
14TH0068-IEC62109-2_2; Telus Bericht 400/17;
SLG 1268-09-GA-09-PB001; UL 11CA54915;
14TH0086-UTE C15-712-1_2; 14TH0086-IEC61683_2;
14TH0086_EN 61000-6-x_0; 1268-09-GG-09-PB001,
Telus Bericht 201/17a

Certificate number: U17-0544

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Certification body



Holger Schaffer

Certification body of Bureau Veritas Consumer Products Services Germany GmbH
Accredited according to DIN EN ISO/IEC 17065