



**BUREAU  
VERITAS**

# Certificate of compliance

**Applicant:** KACO new energy GmbH  
Carl-Zeiss-Str. 1  
74172 Neckarsulm  
Germany

**Product:** Grid-tied photovoltaic (PV) inverter

**Model:** KACO blueplanet 50.0 TL3 M1 WM OD IIGM  
KACO blueplanet 50.0 TL3 M1 WM OD IIGB  
KACO blueplanet 50.0 TL3 M1 WM OD IIGX  
KACO blueplanet 50.0 TL3 M1 WM OD FRGX  
KACO blueplanet 50.0 TL3 M1 WM OD IIGS

## Use in accordance with regulations:

The inverters are tested according the IEC 61683:1999, EN 61683:2000, DIN EN 61683:2000 procedure for measuring efficiency.

## Applied rules and standards:

**IEC 61683:1999, EN 61683:2000, DIN EN 61683:2000**

Photovoltaic systems – Power conditioners – Procedure for measuring efficiency

**IEC 61727:2004**

Photovoltaic (PV) systems – Characteristics of the utility interface

**IEC 62116:2008**

Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters

**IEC 62109-1:2010**

Safety of power converters for use in photovoltaic power systems - Part 1: General requirements

**IEC 62109-2:2011**

Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters

**IEC 62109-1:2010-04 Ed.1.0; EN 62109-1:2011; DIN EN 62109-1:2011**

Safety of power converters for use in photovoltaic power systems – Part 1: General requirements

**IEC 62109-2:2011-06 Ed.1.0; EN 62109-2:2011; DIN EN 62109-2:2012**

Safety of power converters for use in photovoltaic power systems – Part 2: Particular requirements for inverters

**EN 60529**

Degree of protection provided by enclosure (IP Code: 65)

Protection against IP6X according to EN 60529, sub-cl. 13.4 and 13.6

Protection against IPX5 according to EN 60529, sub-cl. 14.2.5

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:** 15TH0250-IEC61683\_1

**Certificate number:** U18-0190

**Date of issue:** 2018-04-13

**Certification body**



Holger Schaffer



Certification body of Bureau Veritas Consumer Products Services Germany GmbH  
Accredited according to EN 45011 - ISO / IEC Guide 65

**Measuring of efficiency**

Extract from test report according the IEC 61683 Nr. 15TH0250

**Efficiency measurement conditions test results**

**blueplanet 50.0 TL3**

Input voltage [Vdc]		Output power (nom. 50 kW)				
		10%	25%	50%	75%	100%
		5 [kW]	12,5 [kW]	25 [kW]	37,5 [kW]	50 [kW]
		$\eta_{CONV}$ in [%]				
$V_{MPPmin}$	580,00	97,97	98,14	98,12	97,86	97,54
$V_{MPPnom}$	600,00	97,90	98,11	98,09	97,87	97,54
$V_{MPPmax}$	900,00	96,50	97,39	97,62	97,47	97,24

**blueplanet 50.0 TL3 - Efficiency Graph**

