



**BUREAU  
VERITAS**

# Certificate of compliance

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

**Product:** Grid-tied photovoltaic inverter

**Model:** Powador 30.0 TL3 - M – INT  
Powador 30.0 TL3 - XL – INT  
Powador 30.0 TL3 - XL - INT - SPD 1+2  
Powador 30.0 TL3 - XL - F – INT  
Powador 30.0 TL3 - XL - F - SPD 1+2

## Use in accordance with regulations:

Automatic disconnection device with three -phase mains surveillance in accordance with IEC 61727:2004 and IEC62116:2014 for photovoltaic systems with a three-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverters.

## Applied rules and standards:

### IEC 61727:2004

Photovoltaic (PV) systems – Characteristics of the utility interface

### IEC 62116:2014

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

### IEEE 1547:2003, IEEE 1547.1:2005 (harmonics, d.c.-injection, voltage and frequency disconnection, reconnection)

IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

### AS 4777.3:2005 (grid protection requirements)

Grid connection of energy systems via inverters – inverter requirements and grid protection requirements

*The following deviations for Thailand were applied:*

*Electricity Grid System Connection Requirements B.E. 2551 of Provincial Electricity Authority (PEA 2013) with attachment for Proclamation No. 6.2 for plants till and above 500kW:*

*under voltage limit (level 1): 198,0V  
under voltage limit (level 2): 110,0V  
over voltage limit (level 1): 242,0V  
overvoltage limit (level 2): 264,0V  
lower frequency limit: 47,9Hz  
upper frequency limit: 51,1Hz  
loss of main detection limit: 2s*

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.

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**Certification body**



Dieter Zitzmann



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