



**BUREAU  
VERITAS**

# Certificate of compliance

**Applicant:** REFU Elektronik GmbH  
Marktstraße 185  
72793 Pfullingen  
Germany

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

**Model:** REFUsol 40K (840P040)  
REFUsol 46K (840P046)

## Use in accordance with regulations:

The inverters are tested according to 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

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:** 14TH0128-IEC61683\_0

**Certificate number:** U16-0630

**Date of issue:** 2016-11-11

**Certification body**



Dieter Zitzmann



Deutsche  
Akkreditierungsstelle  
D-ZE-12024-01-00

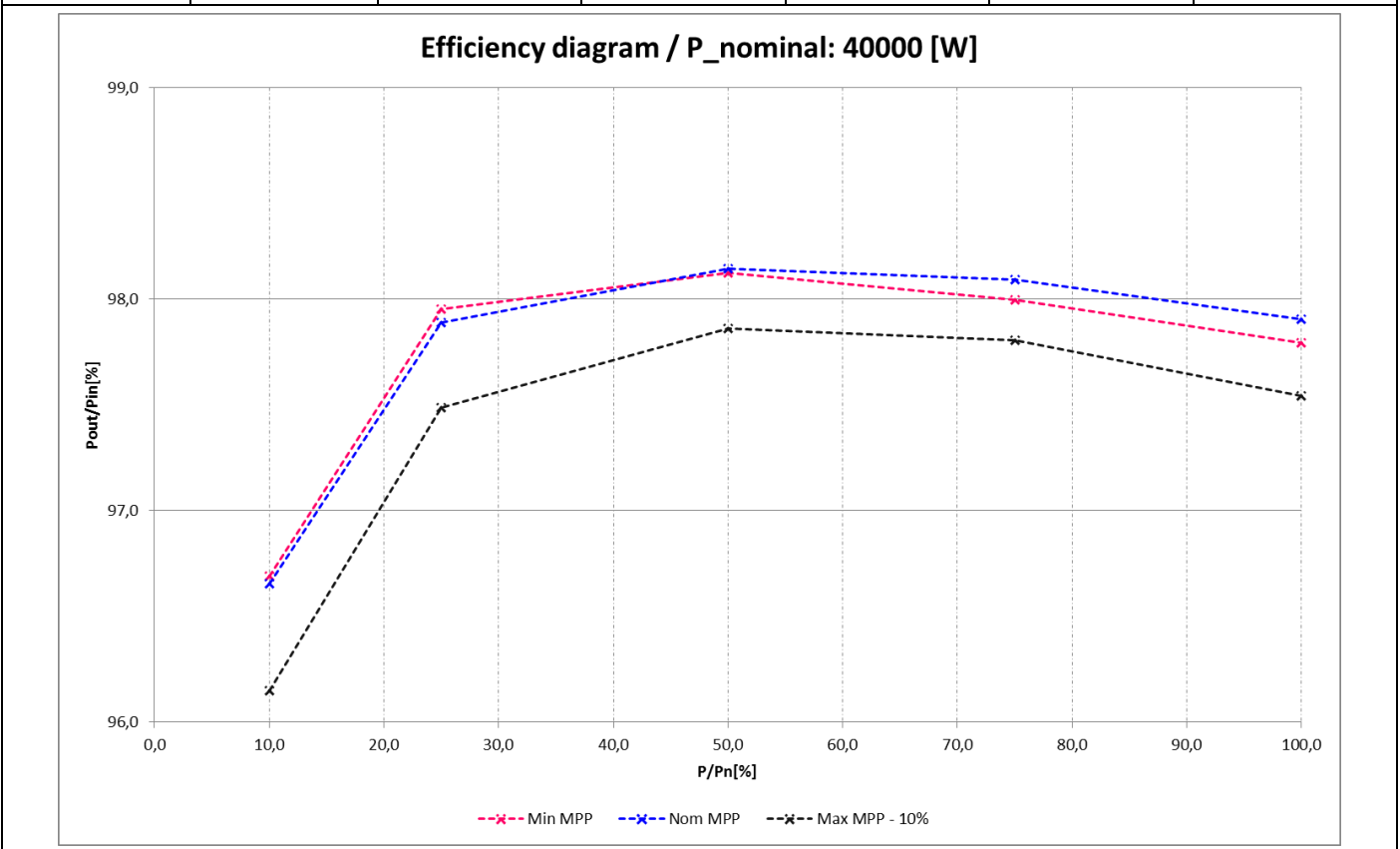
Certification body of Bureau Veritas Consumer Products Services Germany GmbH  
Accredited according to DIN EN ISO/IEC 17065

**Measuring of efficiency**

Extract from test report according the IEC 61683

Nr. 14TH0128

Efficiency measurement conditions test results						
REFUso1 40K (840P040)						
Input voltage [Vdc]		Power in [kW] (nom. 40kW)				
		10%	25%	50%	75%	100%
		[4kW]	[10kW]	[20kW]	[30kW]	[40kW]
		η in [%]				
V <sub>min</sub>	490,0	96,8	98,1	98,2	98,1	97,9
V <sub>nominal</sub>	630,0	96,8	98,0	98,2	98,2	98,0
V <sub>max (90% MPPT)</sub>	765,0	96,2	97,6	98,0	97,9	97,6



**Measuring of efficiency**

Extract from test report according the IEC 61683

Nr. 14TH0128

Efficiency measurement conditions test results						
REFUsol 46K (840P046)						
Input voltage [Vdc]		Power in [kW] (nom. 46kW)				
		10%	25%	50%	75%	100%
		[4,6kW]	[11,5kW]	[23kW]	[34,5kW]	[46kW]
		η in [%]				
V <sub>min</sub>	575,0	96,8	98,1	98,3	98,2	98,1
V <sub>nominal</sub>	765,0	96,8	98,1	98,3	98,3	98,2
V <sub>max (90% MPPT)</sub>	630,0	96,8	98,0	98,3	98,3	98,1

