



**BUREAU  
VERITAS**

# Certificate

**Manufacturer / applicant:** REFU Elektronik GmbH  
Marktstraße 185  
72793 Pfullingen  
Germany

**Product type:** Grid-tied photovoltaic/battery inverter with connection box

**Model:** Inverter: REFUsol 100K (880P100)  
Battery Inverter: REFUstore 100K (421P100)  
Battery Inverter: REFUstore 88K (420P088)  
Battery Inverter: REFUstore 50K (420P050)  
Connection Box central: CBIC 100K (936Pxxx.xxxx) <sup>1</sup>  
Connection Box decentral: CBID 100K (937Pxxx.xxxx) <sup>1</sup>  
Battery Connection Box: CBBS 88K (940P300.0000)

**Info:** <sup>1</sup>).xxxx describes optional equipment like AC switch, DC fuses plus, DC fuses minus, AC SPD (II or I+II), DC SPD (II or I+II) which does not impact the housing and protection degree.

The certificate refers to the stated model(s) which passed the tests according to the applicable standard(s):

IEC 62109-1:2010, EN 62109-1:2010, DIN EN 62109-1:2011

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

IEC 62109-2:2011, 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

**Report number:** 18TH0270-IEC62109-1\_1      **Certification program:** NSOP-0033-DEU-ZE-V01  
18TH0270-IEC62109-2\_1

**Certificate number:** U20-0738      **Date of issue:** 2020-09-17

**Certification body**

Thomas Lammel



Deutsche  
Akkreditierungsstelle  
D-ZE-12024-01-00

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



**Annex to the certificate with No. U20-0738**

<b>Ratings:</b>	<b>REFUso1 100K 880P100</b>	<b>REFUstore 100K 421P100</b>	<b>REFUstore 88K 420P088</b>	<b>REFUstore 50K 420P050</b>
<b>MPP DC voltage range [V]:</b>	<b>280 - 900</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>
<b>Input DC voltage range [V]:</b>	<b>280 - 1100</b>	<b>280 – 900</b>	<b>280 - 900</b>	<b>280 - 900</b>
<b>Input DC current [A]:</b>	<b>157</b>	<b>155</b>	<b>155</b>	<b>155</b>
<b>Output AC voltage [V]:</b>	<b>180 – 480 / PE @ 50 / 60 Hz</b>	<b>180 – 460 / PE @ 50 / 60 Hz</b>	<b>180 – 400 / PE @ 50 / 60 Hz</b>	<b>180 – 400 / PE @ 50 / 60 Hz</b>
<b>Output AC current [A]:</b>	<b>128</b>	<b>128</b>	<b>128</b>	<b>128</b>
<b>Output power [kVA]:</b>	<b>Max. 100*</b>	<b>Max. 100</b>	<b>Max. 88</b>	<b>Max. 50</b>
<b>Note:</b>	<b>* At 400 V grid voltage available output power 88 kW</b>			

<b>Ratings:</b>	<b>CBIC 100K 936Pxxx.xxxx</b>	<b>CBIC 100K 936Pxxx.xxxx</b>	<b>CBID 100K 937Pxxx.xxxx*</b>	<b>CBID 100K 937Pxxx.xxxx*</b>	<b>CBBS 88K(1000V-BR) 940P300.0000</b>
<b>Max Input DC voltage [V]:</b>	<b>1100</b>	<b>1100</b>	<b>1100</b>	<b>1100</b>	<b>1000</b>
<b>Max I<sub>sc</sub> total [A]:</b>	<b>250</b>	<b>250</b>	<b>25 / 250</b>	<b>25 / 250</b>	<b>155</b>
<b>Rated AC voltage [V]:</b>	<b>180 – 480</b>	<b>180 – 480</b>	<b>180 – 480</b>	<b>180 – 480</b>	<b>180 – 400</b>
<b>Max AC current [A]:</b>	<b>128</b>	<b>128</b>	<b>128</b>	<b>128</b>	<b>128</b>
<b>AC Circuit Switch:</b>	<b>None</b>	<b>integrated</b>	<b>None</b>	<b>integrated</b>	<b>None</b>
<b>DC Circuit Switch:</b>	<b>integrated</b>	<b>integrated</b>	<b>integrated</b>	<b>integrated</b>	<b>None</b>
<b>Note:</b>	<b>* The 2 variants basically exclude or include the AC switch. In case the customers want SPD's, they will need to order separate product codes which will be the relevant SPD kits.</b>				