

# Declaration of conformity for generator units in accordance with VDE-AR-N 4105 G.2

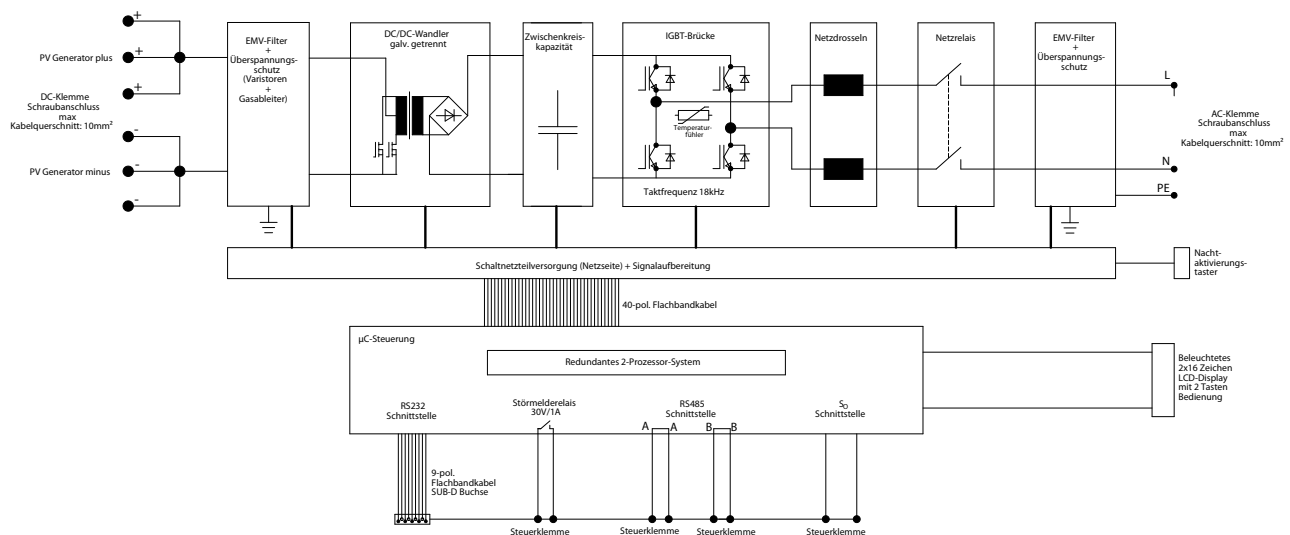
<b>Declaration of conformity for generator unit</b>		2013-03-11
<b>Name and address of manufacturer</b>	KACO new energy GmbH Carl-Zeiss-Str. 1 74172 Neckarsulm, Germany	
<b>Product description</b>	Photovoltaic feed-in inverter	
<b>Type designation</b>	Powador 2002 / 3002 / 4202 / 5002 / 6002	
<b>Software version from</b>	ARM: V4.70 / DSP-AC: V4.70 / DSP-DC: V4.70	
<b>VDE Code of Practice</b>	VDE-AR-N 4105 "Generators connected to the low-voltage distribution network" Minimum technical requirements for connection and parallel operation of generators in the low-voltage distribution network, version 2011-08	

The above generator units meet the requirements of the Directive VDE-AR-N 4105, version 2011-08.

## Setting values and shutdown times of overfrequency protection:

Inverter type	max. active power $P_{E_{max}}$	max. reactive power $S_{E_{max}}$	Rated voltage	Threshold value/ shutdown time overfrequency protection
Powador 2002	1.76 kW	1.77 kVA	230 V	51.5 Hz / 0.2 s
Powador 3002	2.6 kW	2.6 kVA	230 V	51.5 Hz / 0.2 s
Powador 4202	3.6 kW	3.6 kVA	230 V	51.5 Hz / 0.2 s
Powador 5002	4.3 kW	4.4 kVA	230 V	51.5 Hz / 0.2 s
Powador 6002	4.6 kW	4.6 kVA	230 V	51.5 Hz / 0.2 s

## Schematic structure of generator unit:



Neckarsulm, 11/03/2013  
KACO new energy GmbH

Matthias Haag  
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# Declaration of conformity for grid and system protection in accordance with VDE-AR-N 4105 G.3

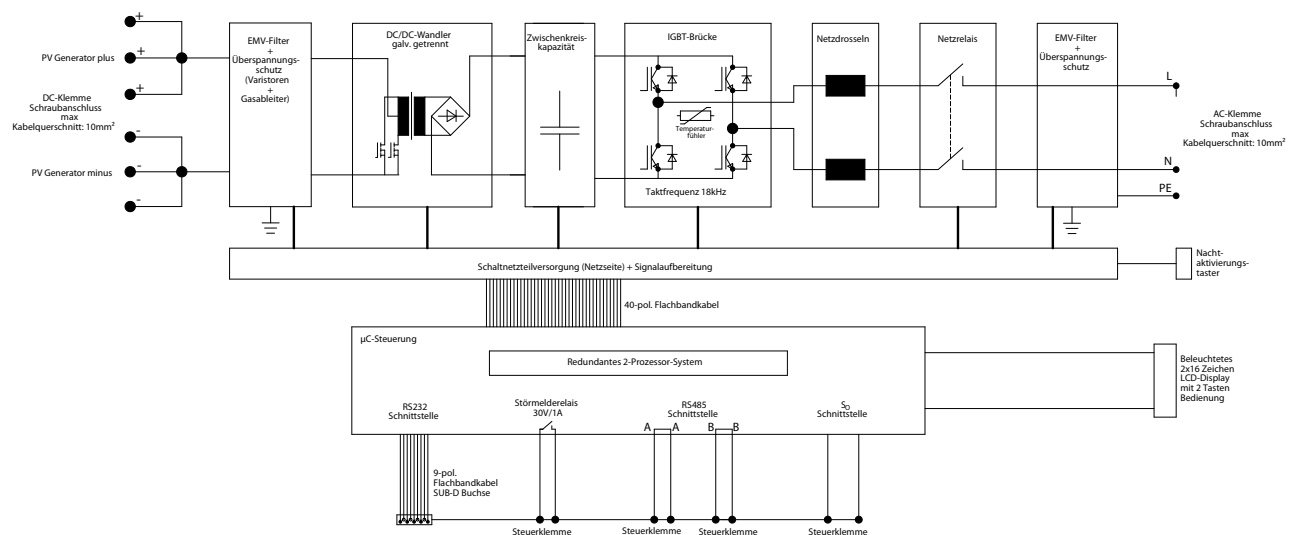
<b>Declaration of conformity for grid and system protection</b>		2013-03-11
<b>Manufacturer's name and address</b>	KACO new energy GmbH Carl-Zeiss-Str. 1 74172 Neckarsulm, Germany	
<b>Type designation</b>	<b>Internal grid and system protection</b>	
<b>Assigned to GU of the models</b>	<b>Powador 2002 / 3002 / 4202 / 5002 / 6002</b>	
<b>Software version from</b>	ARM: V4.70 / DSP-AC: V4.70 / DSP-DC: V4.70	
<b>VDE Code of Practice</b>	<b>VDE-AR-N 4105 "Generators connected to the low-voltage distribution network"</b> Minimum technical requirements for connection and parallel operation of generators in the low-voltage distribution network, version 2011-08	

The above grid and system protection meets the requirements of VDE AR-N 4105, Version 2011-08.

### Setting values and shutdown times of protective functions:

Function	Setting values	Shutdown times
Voltage increase protector U>>	1.15 U <sub>n</sub>	≤ 100 ms
Voltage increase protector U>	1.10 U <sub>n</sub>	≤ 100 ms
Voltage drop protector U<	0.80 U <sub>n</sub>	≤ 100 ms
Frequency increase protector f>	50.2 Hz	≤ 100 ms
Frequency drop protector f<	47.5 Hz	≤ 100 ms
Islanding detection	----	< 5 s

### Schematic structure of generator unit:



Neckarsulm, 11/03/2013  
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