

Declaration of conformity for generator units in accordance with VDE-AR-N 4105 G.2, series Powador 30.0 - 60.0 TL3

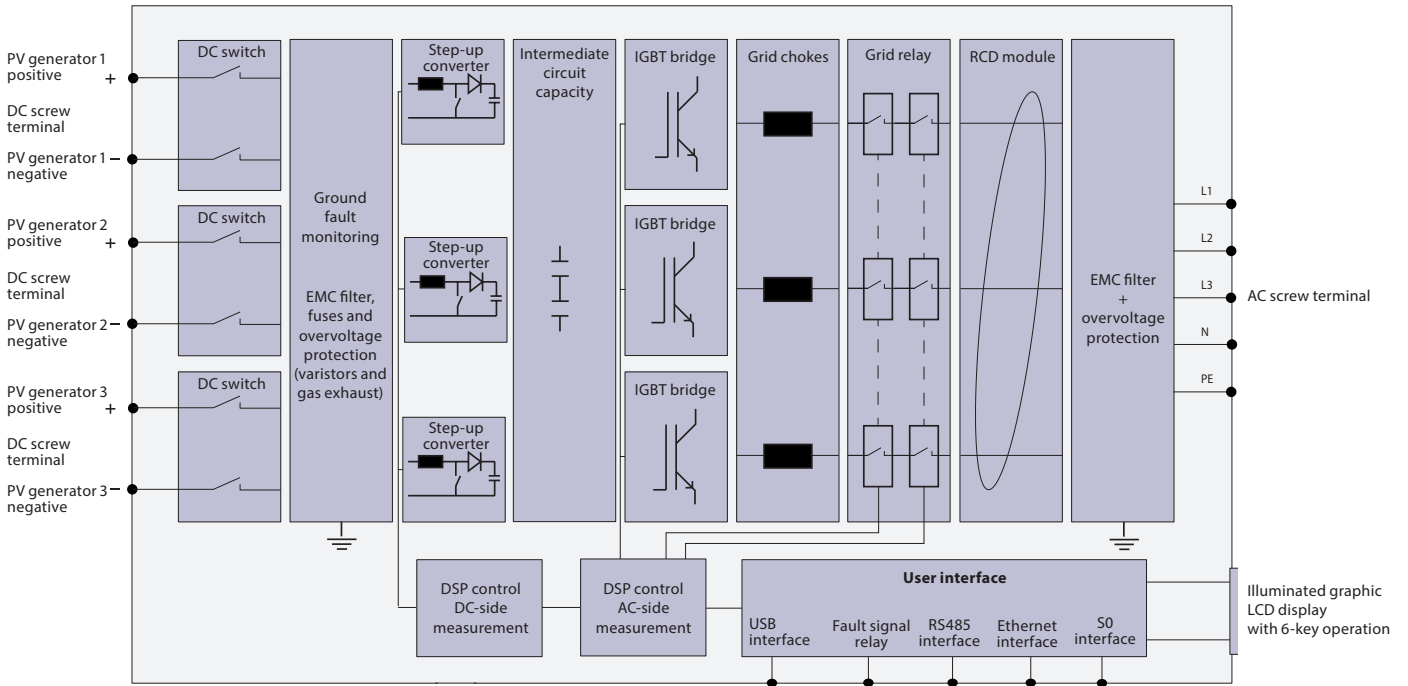
Declaration of conformity for generator unit		2013-03-18
Manufacturer's name and address	KACO new energy GmbH Carl-Zeiss-Str. 1 74172 Neckarsulm, Germany	
Product description	Photovoltaic feed-in inverter	
Type designation	Powador 30.0 TL3 M/XL, 33.0 TL3 M/XL, 36.0 TL3 M/XL, 39.0 TL3 M/XL, 40.0 TL3 M/XL, 60.0 TL3 M/XL	
Software version from	ARM: V1.26 / DSP-AC: V1.14 / DSP-DC: V1.24	
VDE Code of Practice	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.

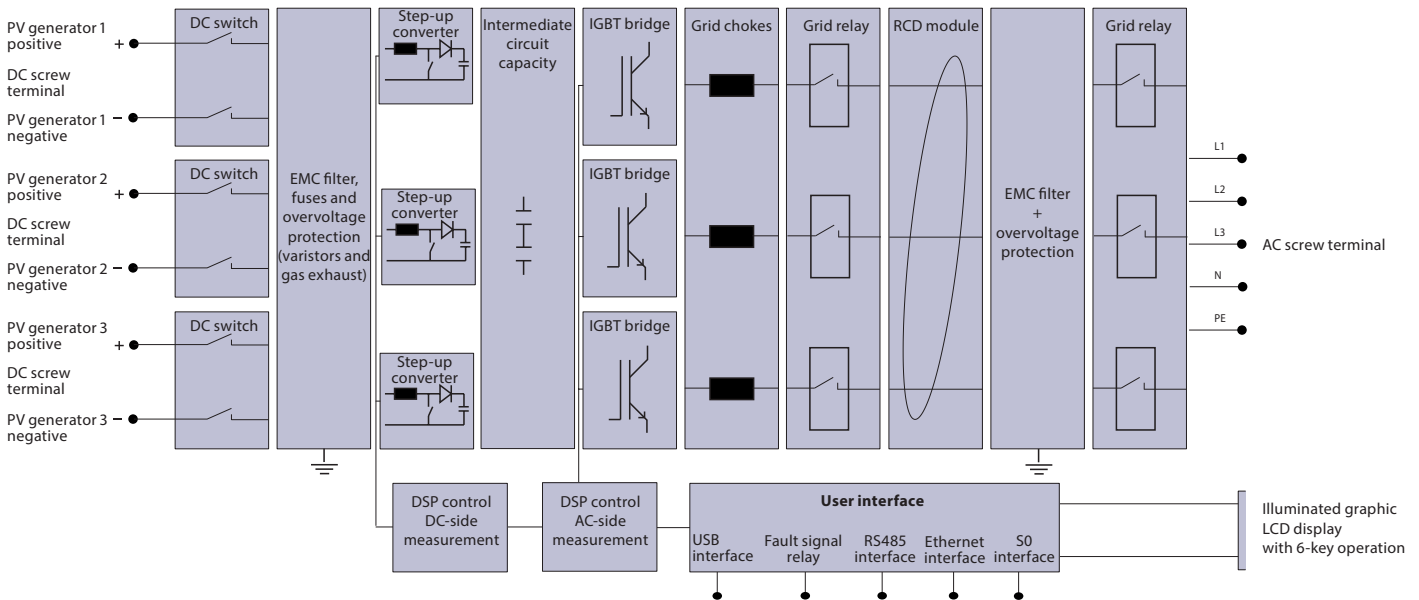
Setting values and shutdown times of overfrequency protection:

Inverter type	max. active power $P_{E_{max}}$	max. reactive power $S_{E_{max}}$	Nominal voltage (3/N/PE)	Threshold value/shutdown time overfrequency protection
Powador 30.0 TL3 M/XL	25,80 kW	26,70 kVA	230/400 V	51,5 Hz / 0,2 s
Powador 33.0 TL3 M/XL	28,30 kW	29,40 kVA	230/400 V	51,5 Hz / 0,2 s
Powador 36.0 TL3 M/XL	30,90 kW	31,00 kVA	230/400 V	51,5 Hz / 0,2 s
Powador 39.0 TL3 M/XL	34,40 kW	35,40 kVA	230/400 V	51,5 Hz / 0,2 s
Powador 40.0 TL3 M/XL	37,10 kW	38,10 kVA	230/400 V	51,5 Hz / 0,2 s
Powador 60.0 TL3 M/XL	49,95 kW	51,68 kVA	230/400 V	51,5 Hz / 0,2 s

Schematic structure of generator unit Powador 30.0 TL3, 33.0 TL3, 36.0 TL3, 39.0 TL3, 40.0 TL3:



Schematic structure of generator unit Powador 60.0 TL3:



Neckarsulm, 18.03.2013
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, series Powador 30.0 - 60.0 TL3

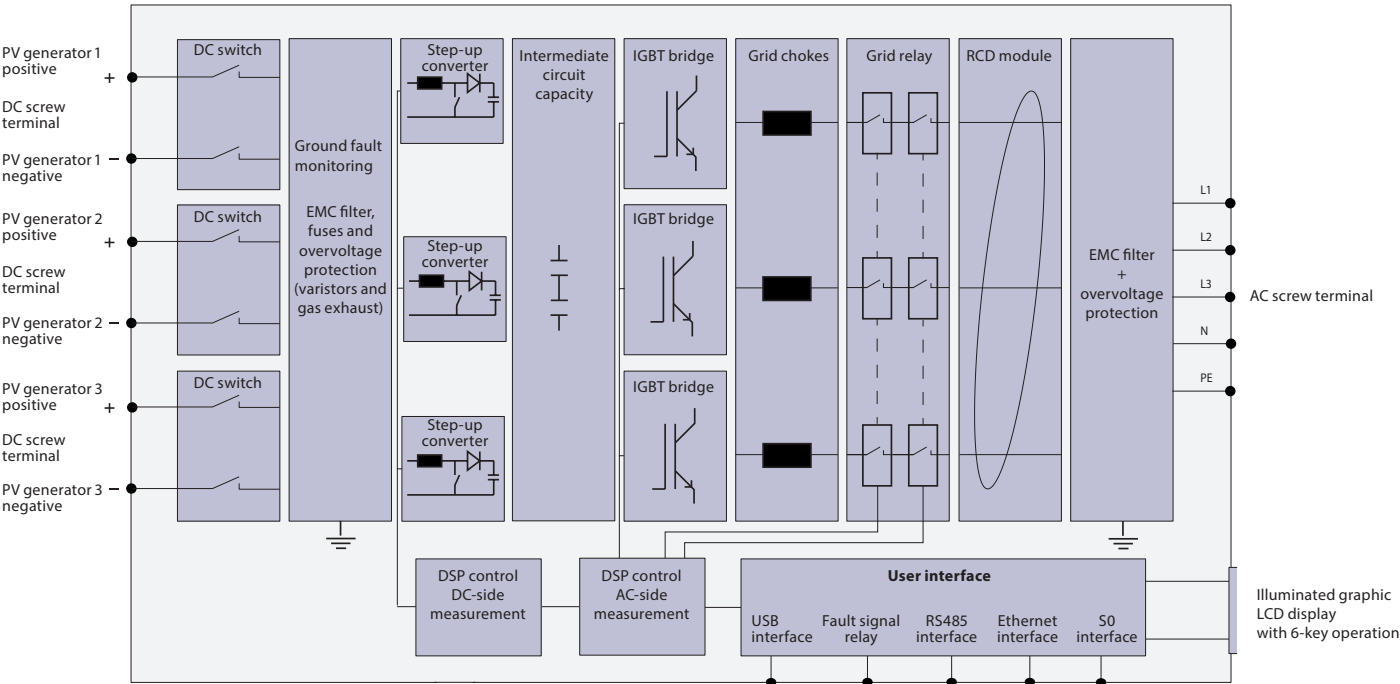
Declaration of conformity for grid and system protection		2013 - 03-18
Manufacturer's name and address	KACO new energy GmbH Carl-Zeiss-Str. 1 74172 Neckarsulm, Germany	
Type designation	Internal grid and system protection	
Assigned to GU of the models	Powador 30.0 TL3 M/XL, 33.0 TL3 M/XL, 36.0 TL3 M/XL, 39.0 TL3 M/XL, 40.0 TL3 M/XL, 60.0 TL3 M/XL	
Software version from	ARM: V1.26 / DSP-AC: V1.14 / DSP-DC: V1.24	
VDE Code of Practice	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 grid and system protection meets the requirements of VDE AR-N 4105, Version 2011-08.

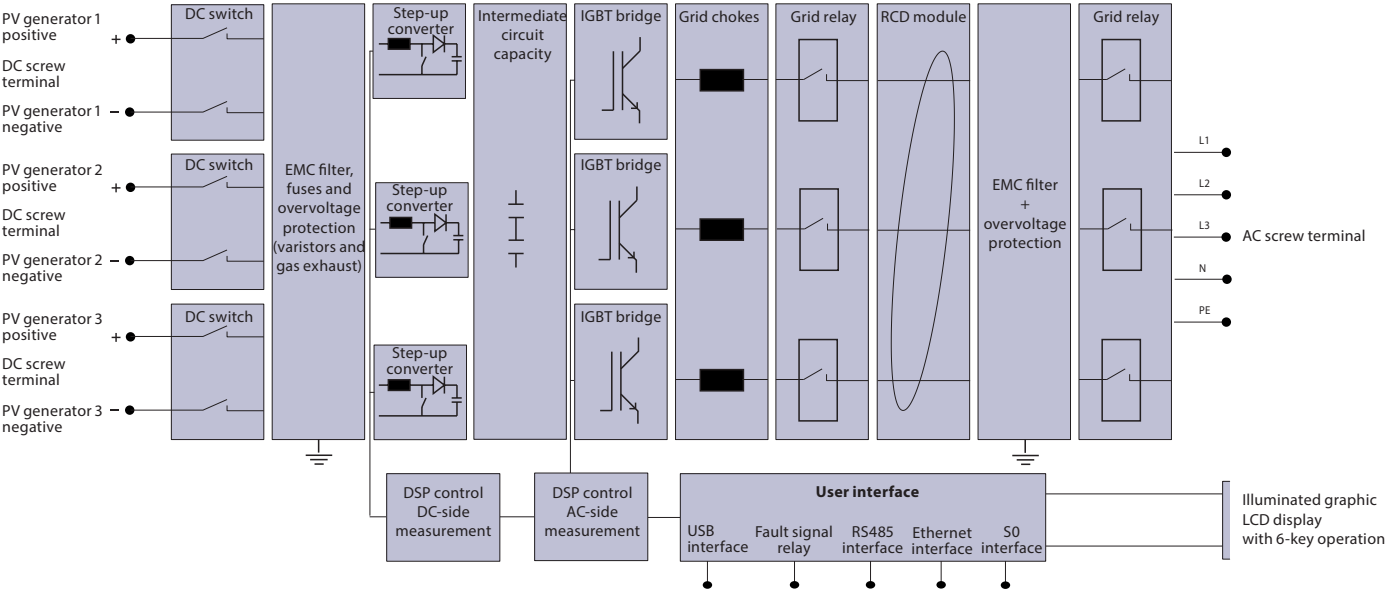
Setting values and response times of protective functions:

Function	Setting values	Response times
Voltage increase protector $U_{>>}$	1,15 U_n	100 ms
Voltage increase protector $U_{>}$	1,10 U_n	100 ms
Voltage drop protector $U_{<}$	0,80 U_n	100 ms
Frequency increase protector $f_{>}$	51,5 Hz	100 ms
Frequency drop protector $f_{<}$	47,5 Hz	100 ms
Islanding detection	----	< 5 s


Schematic structure of generator unit Powador 30.0 TL3, 33.0 TL3, 36.0 TL3, 39.0 TL3, 40.0 TL3:



Schematic structure of generator unit Powador 60.0 TL3:



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