



K A C O 
new energy.

Data sheet

Powador

2002 | 3002 | 4202

5002 | 6002

High flexibility. Easy installation.

The galvanically isolated string inverters Powador 2002–6002.

The inverters from the Powador 2002 to Powador 6002, with galvanic isolation, feature effortless installation, the highest degrees of efficiency, and optimum operation with thin-film modules – and make designing a PV system a piece of cake.

Installation is problem-free: All required connections for communication – RS485, S0 and fault signalling relay – are located on a single circuit board in the housing and can be connected easily. The DC switch is integrated into the units as a matter of course. They achieve an outstanding efficiency of up to 96 %.

Using a Powador 02 inverter, you can build your next PV installation wherever you want: The software knows the in-

ternational requirements. This helps you to quickly and easily connect your PV installation to the grid – simply select the appropriate country setting and display language during installation.

The Powador 02 series skillfully makes use of the advantages of galvanically isolated inverters. The wide input voltage range allows you to be extremely flexible in planning your PV installation. Where transformerless units are out of the question, the Powador 02 series can handle even complex PV system designs.

In addition, KACO new energy offers a generator earthing kit for this series. Thin-film modules often require gene-

rator earthing for a long service life. Moreover, the inverters can display the earthing status of the PV generator – important information especially for the safe operation of thin-film modules.

From third quarter on, these units will be able to feed in reactive power.

Technical data

Powador 2002 | 3002 | 4202 | 5002 | 6002

Electrical data	2002	3002
Input variables		
PV max. generator power	2 000 W	3 000 W
MPP range	125 V ... 510 V	200 V ... 510 V
No-load voltage	600 V*	600 V*
Max. input current	14.3 A	13.5 A
Number of strings	3	3
Number of MPP trackers	1	1
Inverse polarity protection	short-circuit diode	short-circuit diode
Output variables		
Rated output	1 650 W	2 500 W
Max. output	1 650 W	2 500 W
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	7.2 A	10.9 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	0.80 inductive ... 0.80 capacitive**	0.80 inductive ... 0.80 capacitive**
Number of grid phases	1	1
General electrical data		
Max. efficiency	95.9 %	96.0 %
European efficiency	95.3%	95.4 %
Night consumption	0.4 W	0.4 W
Switching plan	self-commutated, galvanically isolated, HF transformer	self-commutated, galvanically isolated, HF transformer
Network monitoring	acc. to local requirements	acc. to local requirements
Mechanical data		
Display	LCD 2 x 16 characters, LED	LCD 2 x 16 characters, LED
Control units	2 buttons for display control	2 buttons for display control
Interfaces	RS485, S0	RS485, S0
Fault signalling relay	potential-free NOC max. DC 30 V / 3 A max. AC 250 V/1.5A	potential-free NOC max. DC 30 V / 3 A max. AC 250 V/1.5A
Connections	PCB terminals inside the unit (max. cross section. 6 mm ² flexible), Cable connection via cable fittings (DC fitting M16, AC fitting M32)	
Ambient temperature	-20 °C ... +60 °C***	-20 °C ... +60 °C***
Cooling	free convection / no fan	free convection / no fan
Protection class	IP54	IP54
Noise emission	< 35 dB (A) (noiseless)	< 35 dB (A) (noiseless)
DC switch	integrated	integrated
Casing	aluminium	aluminium
H x W x D	450 x 340 x 200 mm	500 x 340 x 200 mm
Weight	14.5 kg	20 kg

Applicable standards and regulations are taken into account for each country version that is set.

* To protect the hardware, the inverter starts up only at voltages < 550 V / **with the passing of the German Low Voltage irective in Q3/2011
***Power derating at high ambient temperatures

4202	5002	6002
Input variables		
4 200 W	5 000 W	6 000 W
200 V ... 510 V	200 V ... 510 V	200 V ... 510 V
600 V*	600 V*	600 V*
18.5 A	22.4 A	26.5 A
3	3	3
1	1	1
short-circuit diode	short-circuit diode	short-circuit diode
Output variables		
3 500 W	4 200 W	5 000 W
3 500 W	4 200 W	5 000 W
acc. to local requirements	acc. to local requirements	acc. to local requirements
15.2 A	18.3 A	21.7 A
50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
0.80 inductive ... 0.80 capacitive**	0.80 inductive ... 0.80 capacitive**	0.80 inductive ... 0.80 capacitive**
1	1	1
General electrical data		
95.9 %	95.9 %	95.9 %
95.1 %	95.3 %	95.3 %
0.4 W	0.4 W	0.4 W
self-commutated, galvanically isolated, HF transformer	self-commutated, galvanically isolated, HF transformer	self-commutated, galvanically isolated, HF transformer
acc. to local requirements	acc. to local requirements	acc. to local requirements
Mechanical data		
LCD 2 x 16 characters, LED	LCD 2 x 16 characters, LED	LCD 2 x 16 characters, LED
2 buttons for display control	2 buttons for display control	2 buttons for display control
RS485, S0	RS485, S0	RS485, S0
potential-free NOC max. DC 30 V / 3 A max. AC 250 V/1.5A	potential-free NOC max. DC 30 V / 3 A max. AC 250 V/1.5A	potential-free NOC max. DC 30 V / 3 A max. AC 250 V/1,5A
PCB terminals inside the unit (max. cross section. 6 mm ² flexible, 10 mm ² rigid), Cable connection via cable fittings (DC fitting M16, AC fitting M32)		
-25 °C ... +60 °C***	-25 °C ... +60 °C***	-25 °C ... +60 °C***
free convection / no fan	fan	fan
IP54	IP54	IP54
< 35 dB (A) (noiseless)	< 45 dB (A) (fan)	< 45 dB (A) (fan)
integrated	integrated	integrated
aluminium	aluminium	aluminium
600 x 340 x 240 mm	600 x 340 x 240 mm	600 x 340 x 240 mm
26 kg	28 kg	28 kg

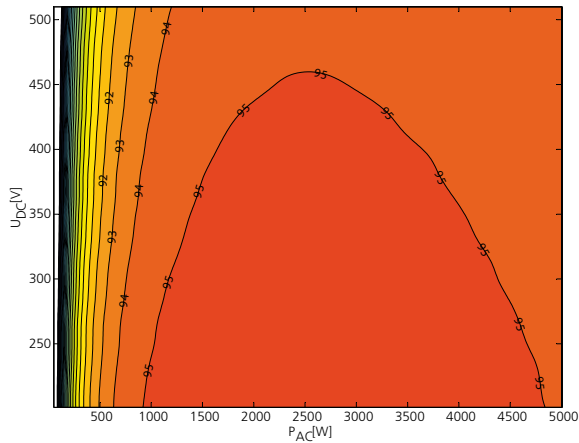
Applicable standards and regulations are taken into account for each country version that is set.

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***Power derating at high ambient temperatures



Graphical display of efficiency

3D efficiency diagram for Powador 6002



Powador 2002 | 3002 4202 | 5002 | 6002

Degree of efficiency up to 96.0 %

Optimized MPP tracking for higher yield

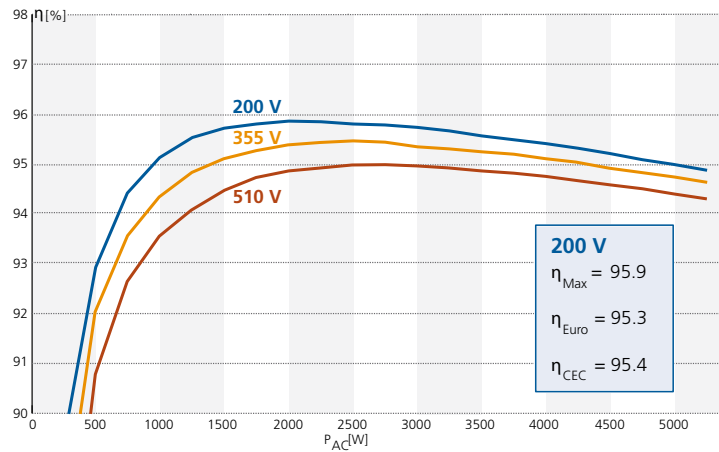
Grounding of PV generator possible
Optimally suited for thin-film modules

5-years factory warranty plus 2-years when the unit is registered

Asymmetry monitoring via special KACO Sym-Bus in Q3/2011

Capable of reactive power

Efficiency characteristic curves for Powador 6002



Your retailer