



**K A C O**   
new energy.

Data sheet

Powador

3200 | 4400 | 5300

5500 | 6600

## Less is More: No Transformer, Lots of Power.

The Powador 3200 – 6600 transformerless string inverters.

Our Powador 3200 to 6600\* transformerless single-phase inverters are now equipped with digital controllers so that they can be used internationally. The appropriate country settings can easily be selected on-site; the country-specific settings are stored in the software, so the inverters can be quickly installed in any country. Users can also choose a menu language regardless of the selected country setting. What's more, this new controller means that the topology is well-prepared for the upcoming Low Voltage Directive. We have changed the product names in line with this improvement. The maximum PV generator power for which the particular unit is optimised can now be read from the designation.

All units operate with a full bridge without a step-up converter. Four IGBT power switches reproduce the sine-shaped voltage curve of the public power grid employing pulse width modulation. These are true single-stage, self-commutated units. However, the input voltage must be greater than the peak line voltage for them to be used. The units are equipped with a wide MPP range of 350 V to 600 V. The open circuit voltage is 800 V, which simplifies the work of installers when laying out systems. The same is true for the integrated DC disconnect. Screw terminals make connecting to the grid easy. The units contain a single- or three-phase monitoring system conforming to VDE0126-1-1, including an AC/DC-

sensitive residual current protector. The units can thus be connected to the grid without any additional measures, even in installations with several inverters.

In addition, the units operate using purely passive noiseless convection cooling. The heat that is lost is, to a great degree, dissipated via the heat sink on the rear of the unit. The rest of the heat is radiated from the surface of the aluminium housing. No fans, no problems, just long service life.

\* Successors to Powador 2500xi – 5000xi inverters

# Technical data

Powador 3200 | 4400 | 5300 | 5500 | 6600

Electrical data	3200	4400
<b>Input variables</b>		
PV max. generator output	3 200 W	4 400 W
MPP range	350 V ... 600 V	350 V ... 600 V
No-load voltage	800 V	800 V
Max. input current	8.6 A	12.0 A
Number of strings	3	3
Number of MPP trackers	1	1
Inverse polarity protection	short-circuit diode	short-circuit diode
<b>Output variables</b>		
Rated output	2 600 W	3 600 W
Max. output	2 850 W	4 000 W
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	11.3 A	15.6 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
<b>General electrical data</b>		
Max. efficiency	96.6 %	96.5 %
European efficiency	95.8 %	95.9 %
Night consumption	0 W	0 W
Switching plan	self-commutated, transformerless	self-commutated, transformerless
Grid monitoring	acc. to local requirements	acc. to local requirements
<b>Mechanical data</b>		
Display	LCD 2 x 16 characters	LCD 2 x 16 characters
Control units	2 buttons for display control	2 buttons for display control
Interfaces	RS485, S0	RS485, S0
Fault signalling relay	potential-free NOC max. 250 V / 1 A	potential-free NOC max. 250 V / 1 A
Connections	PCB terminals within the device (max. cross section: 10mm <sup>2</sup> ) cable supply via cable connections (DC connection M16, AC-connection M32)	PCB terminals within the device (max. cross section: 10mm <sup>2</sup> ) cable supply via cable connections (DC connection M16, AC-connection M32)
Ambient temperature	-20 °C ... +60 °C**	-20 °C ... +60 °C**
Temperature monitoring heat sink	> 75 °C temperature-dependent impedance matching / > 85 °C cut-out	> 75 °C temperature-dependent impedance matching / > 85 °C cut-out
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	500 x 340 x 200 mm	550 x 340 x 220 mm
Weight	19 kg	21 kg

\*with the passing of the German Low Voltage Directive in Q3/2011 / \*\*Power derating at high ambient temperatures

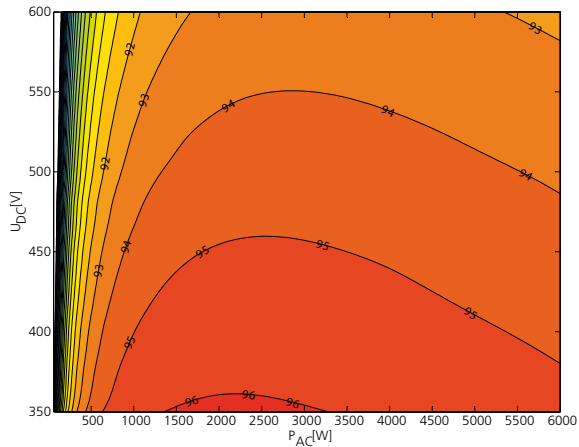
5300	5500	6600
<b>Input variables</b>		
5 300 W	5 500 W	6 600 W
350 V ... 600 V	350 V ... 600 V	350 V ... 600 V
800 V	800 V	800 V
14.5 A	15.2 A	18.0 A
3	3	3
1	1	1
short-circuit diode	short-circuit diode	short-circuit diode
<b>Output variables</b>		
4 400 W	4 600 W	5 500 W
4 800 W	5 060 W	6 000 W
acc. to local requirements	acc. to local requirements	acc. to local requirements
19.1 A	20.0 A	23.9 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
<b>General electrical data</b>		
96.4 %	96.3 %	96.3 %
95.8 %	95.7 %	95.8 %
0 W	0 W	0 W
self-commutated, transformerless	self-commutated, transformerless	self-commutated, transformerless
acc. to local requirements	acc. to local requirements	acc. to local requirements
<b>Mechanical data</b>		
LCD 2 x 16 characters	LCD 2 x 16 characters	LCD 2 x 16 characters
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. 250 V / 1 A	potential-free NOC max. 250 V / 1 A	potential-free NOC max. 250 V / 1 A
PCB terminals within the device (max. cross section: 10mm <sup>2</sup> ) cable supply via cable connections (DC connection M16, AC-connection M32)	PCB terminals within the device (max. cross section: 10mm <sup>2</sup> ) cable supply via cable connections (DC connection M16, AC-connection M32)	PCB terminals within the device (max. cross section: 10mm <sup>2</sup> ) cable supply via cable connections (DC connection M16, AC-connection M32)
-20 °C ... +60 °C**	-20 °C ... +60 °C**	-20 °C ... +60 °C**
> 75 °C temperature-dependent impedance matching / > 85 °C cut-out	> 75 °C temperature-dependent impedance matching / > 85 °C cut-out	> 75 °C temperature-dependent impedance matching / > 85 °C cut-out
free convection / no fan	free convection / no fan	free convection / no fan
IP54	IP54	IP54
< 35 dB (A) (noiseless)	< 35 dB (A) (noiseless)	< 35 dB (A) (noiseless)
integrated	integrated	integrated
aluminium	aluminium	aluminium
550 x 340 x 220 mm	600 x 340 x 220 mm	600 x 340 x 220 mm
26 kg	28 kg	30 kg

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## Graphical display of efficiency

3D efficiency diagram for Powador 6600



## Powador 3200 | 4400 5300 | 5500 | 6600

Integrated potential-free fault signal

Single- or three-phase monitoring in accordance with VDE V 0126-1-1:2006+E A1:2011

Silent, maintenance-free convection cooling

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

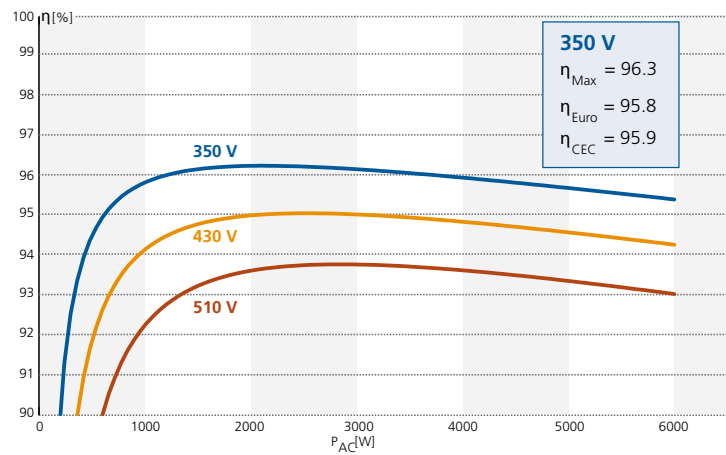
Preconfigured international country settings

Menu language can be chosen as required

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

Capable of reactive power

Efficiency characteristic curves for Powador 6600



Your retailer