

Powador 4500xi

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

The Powador 2500xi – 5000xi transformerless string inverters.

Inverters without transformers offer a higher degree of efficiency. And KACO specialises in transformerless inverters.

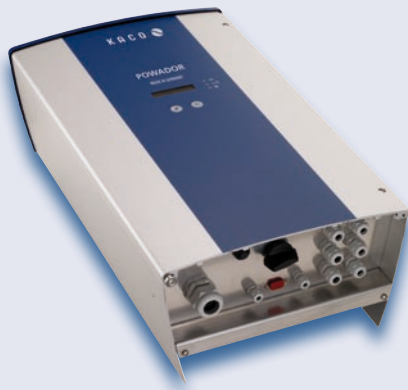
This means: All of our single-phase units in the 00xi series operate with a full bridge without a step-up converter. According to the principle of pulse width modulation, four IGBT power switches emulate the sinusoidal voltage curve of the public power grid. This is also known as an H4 bridge and self-commutated units. However, the input voltage must be greater than the peak line voltage for it to be used. All KACO transformerless inverters are purposely equipped with a wide MPP range of 350 V to 600 V. The

no-load voltage is 800 V, which simplifies the work of installers as the installation is laid out. This is also true of the integrated DC disconnect. Screw terminals make connecting to the grid easy. That makes it possible for you to connect installations with several inverters to the grid without additional measures.

All Powador inverters with an output up to and including 8 kW operate with purely passive, silent 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, long life.

### Highlights

- Integrated DC disconnect
- Integrated AC/DC-sensitive residual current protection
- Integrated potential-free fault signal
- SO interface for control of large displays
- Highest degree of efficiency due to purely transformerless technology
- Pure convection cooling
- Easy installation due to mounting plate and housing doors
- MPP controller



## Powador 4500xi

Electrical data		4500xi
<b>Input variables</b>		
PV max. generator output		6 000 W
MPP range		350 V ... 600 V
No-load voltage		800 V
Max. input current		15.2 A
Number of strings		3
Number of MPP controllers		1
Inverse polarity protection		short-circuit diode
Overload protection		integrated
<b>Output variables</b>		
Rated output		4 600 W
Max. output		5 060 W
Supply voltage		acc. to local requirements
Safety cut-out		acc. to local requirements
Rated current		20.0 A
Max. current		22.0 A
Rated frequency		50 Hz / 60 Hz
cos phi		≈ 1
Number of grid phases		1
Distortion factor for rated output		< 3 %
<b>General electrical data</b>		
Max. efficiency		96.3 %
European efficiency		95.3 %
Standby consumption		11 W
Night consumption		0 W
Min. grid feed		approx. 35 W
Switching plan		self-commutated, transformerless
Network monitoring		acc. to local requirements
<b>Mechanical data</b>		
Display		LCD 2 x 16 characters
Control units		2 buttons for display control
Interfaces		RS232 / RS485, S0
Fault signalling relay		potential-free NOC max. 30 V / 1 A
Connections		PCB terminals within the device (max. cross section: 10 mm <sup>2</sup> ) Cable supply via cable connections (DC-connection M16, AC-connection M32)
Ambient temperature		-20 °C ... +60 °C *
Temperature monitoring		> 75 °C temperature-dependent impedance matching > 85 °C cut-out
Cooling		free convection / no fan
Protection class		IP54
Noise emission		< 35 dB (A) (noiseless)
DC-switch		integrated
Casing		Aluminium
H x W x D		600 x 340 x 220 mm
Weight		28 kg

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The text and figures reflect the current technical state at the time of printing. Subject to technical changes. Errors and omissions excepted.  
\* Derating at higher temperatures