



## Powador 00xi-series.

The standard of **transformerless** solar inverters.  
We integrated new features - and enhanced existing ones.



**DC-switch integrated**



product  
design  
award

2006



full of energy.



K A C O

GERÄTECHNIK

## We integrated new features

- DC-switch
- Integrated AC/DC universal fault-current protection
- Interface mode RS232 / RS485 adjustable via operating elements
- Integrated potential-free fault indication
- Optional S0 interface for direct control of large displays
- Redundant 3-phase monitoring according to the new VDE 0126-1-1:2006-02



## And enhanced existing ones

- Highest degrees of efficiency due to purely transformerless technology
- Rugged design and highly reliable quality made by KACO
- Protection Class IP54
- Purely convection-cooled
- Easy installation by means of mounting panel and door-type enclosure cover
- LC-Display offered as a standard feature
- Patented MPP tracking
- Standard 7-year guarantee

### Available variants

| Type Description | Powador 2500xi, 3500xi, 4000xi, 4500xi, 5000xi |
|------------------|--|
|------------------|--|

### Input - Electrical data

|                             |   |
|-----------------------------|---|
| Possible PV generator power | 3,20 kW ... 6,80 kW (depending on type) |
| MPP range                   | 350 V ... 600 V                         |
| Open circuit voltage max.   | 800 V                                   |

### Output - Electrical data

|  |   |
|--|---|
| Rated power  | 2,60 kW; 3,45 kW; 4,40 kW; 4,60 kW; 5,50 kW (depending on type)                       |
| Power max.   | 2,85 kW; 3,80 kW; 4,80 kW; 5,06 kW; 6,00 kW   |
| Grid voltage   | 190 V ... 264 V   |
| Grid monitoring  | Redundant 3-phase monitoring according to new VDE 0126-1-1:2006-02, VDEW-compliant    |
| Function of grid-voltage monitoring                      | 2-stage, fast monitoring (200 msec) $\pm$ 15 % / 17 %; otherwise according to EN50160 |
| Frequency  | 50 Hz / 60 Hz   |
| Integrated frequency monitoring                          | Yes, according to VDE 0126-1-1:2006-02  |
| Integrated AC/DC-universal fault-current circuit breaker | Yes, according to VDE 0126-1-1:2006-02  |

### Inverter - Electrical data

|                               |  |
|-------------------------------|--|
| Degree of efficiency max.     | 96,3 %   |
| European degree of efficiency | 94,3 % ... 95,3 % (depending on type)                              |
| Circuit concept               | Pulse-width modulated (IGBT) transformerless, islanding protection |
| Clock frequency               | 18 kHz   |

### Inverter - Mechanical and technical data

|                        |  |                 |                 |                 |                 |
|------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Optical displays       | DC Power in (green)<br>AC Power out (green)<br>failure (red)<br>Illuminated LC display (2 x 16 characters) |                 |                 |                 |                 |
| Operating elements     | 2 keys for display operation   |                 |                 |                 |                 |
| Interfaces             | RS232 / RS485 (selectable via keys)<br>S0 interface  |                 |                 |                 |                 |
| Fault signal messaging | Potential-free contact   |                 |                 |                 |                 |
| Connections            | AC connection via terminals<br>DC connection via terminals   |                 |                 |                 |                 |
| Ambient temperature    | - 20 °C ... + 60 °C *  |                 |                 |                 |                 |
| Cooling                | pure convection  |                 |                 |                 |                 |
| Protection class       | IP54 according to EN 60529:1991 + A1:2000  |                 |                 |                 |                 |
| H x W x D (mm)         | 500 x 340 x 200  | 500 x 340 x 200 | 550 x 340 x 220 | 600 x 340 x 220 | 600 x 340 x 220 |
| Weight                 | 19 kg  | 21 kg           | 26 kg           | 28 kg           | 30 kg           |

\* derating at higher temperatures

## The standard of transformerless solar inverters

"We want all wishes to come true!" - With this objective in mind, R&D engineers at KACO have pursued new ideas and possible enhancements of our well-proven transformerless inverter series, Powador.

This new series now includes redundant 3-phase monitoring and AC/DC-universal fault-current protection.

The fact that 3-phase monitoring has been adopted in the new VDE standard 0126-1:2006-02 clearly confirms our philosophy at KACO: "Maximum reliability and functionality to our customers' benefit."

The new grid monitoring feature has been adapted to the requirements of the new standard, now making it possible to use KACO inverters for multi-inverter installations without requiring any additional effort.

Discussions with your Electric Board are now a thing of the past. The new, adjustable interface mode will make you even more flexible when selecting your accessories or data recording and data evaluation.

This feature allows on-site selection of the desired interface protocol (RS232 or RS485). In addition, a potential-free fault-message relay has been integrated.

The new enclosure design underlines all these new product features, while maintaining the proven reliability and functionality of these devices.

Protection class IP54 makes our inverters suitable for harsh operating conditions, and there are absolutely no compromises as far as our guarantee and services are concerned. Our 7-year guarantee (with an option to be extended to 11 years) is aimed at setting new standards.

retailer