



## Powador 12.0 TL3

# The Power Plants of the Future.

## Transformerless three-phase inverters Powador 10.0 TL3 to 14.0 TL3.

Imagine perfect grid current – the kind you get from large-scale power plants – but from decentralised renewable sources. The Powador 10.0 TL3 to 14.0 TL3 units combine KACO's many years of experience in developing transformerless units with the demand for perfect grid feeding. Since they are true three-phase units, they provide high-quality, sinusoidal alternating current with a 120-degree phase shift – a dream come true for all grid operators. They also meet all of the requirements of Germany's new Medium Voltage Directive ("Mittelspannungsrichtlinie").

These units give you a lot of flexibility in designing your PV system. They operate with two separate MPP trackers to allow for optimum adjustment. Two strings can be connected for each DC/DC actuator, which means that the units can process

the solar power from four strings. The input voltage window is extremely wide: 350 to 800 V. The peak efficiency is more than 98%.

Cooling is provided by demand-driven fans that are aimed directly at the temperature-sensitive components. It is easy to achieve perfect communication with the three units. In addition to the normal RS485 interface, which enables you to query yield data with the Powador-proLOG, they offer innovations that provide a lot of convenience: an integrated web server for uninterrupted monitoring via Ethernet, a USB connection for installing software updates and downloading all log data, as well as a graphic display to view operating data.

The new housing makes the units compact and simplifies installation. A number

of country-specific default settings are programmed into the inverters. These are easy to select during on-site installation. Your choice of operating language is independent of these settings.

Available for delivery as of January 2011.



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### Highlights

- Three-phase inverter
- Transformerless
- Two MPP trackers
- Degree of efficiency > 98%
- Multilingual menu
- Graphical display
- Integrated web server
- USB connection for updates and downloads

Electrical data		12.0 TL3
<b>Input variables</b>		
PV max. generator output		12 000 W
MPP range		350 V ... 800 V
No-load voltage		1 000 V
Max. input current		2 x 17.5 A
Number of strings		2 x 2
Number of MPP controllers		2
<b>Output variables</b>		
Rated output		10 000 VA
Supply voltage		acc. to local requirements
Rated current		3 x 14.5 A
Rated frequency		50 Hz / 60 Hz
cos phi		
Number of grid phases		3
<b>General electrical data</b>		
Max. efficiency		98.0 %
Europ. efficiency		97.0 %
Night consumption		< 1 W
Switching plan		transformerless
Network monitoring		acc. to local requirements
<b>Mechanical data</b>		
Display		graphical display + LEDs
Control units		4-way navigation + 2 buttons
Interfaces		Ethernet, USB, RS485, S0 output
Fault signalling relay		potential-free NOC max. 230 V / 1 A
Connections		DC: solar connector, AC: cable connection M32 and terminal
Ambient temperature		-25 °C ... +60 °C*
Cooling		temperature-dependent fan
Protection class		IP65
Noise emission		< 45 dB (A) (noiseless when operated without fan)
DC-switch		integrated
Casing		aluminium casting
H x W x D		690 x 420 x 200 mm
Weight		approx. 40 kg

EN 12.0TL3-100722

The text and figures reflect the current technical state at the time of printing. Subject to technical changes. Errors and omissions excepted.  
\* Power derating at high ambient temperatures