



Powador
10.0 TL3
12.0 TL3
14.0 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.

Technical Data

Powador 10.0 TL3 | 12.0 TL3 | 14.0 TL3

Electrical data	10.0 TL3	12.0 TL3
Input variables		
PV max. generator output	10000 W	12000 W
MPP range	350 V ... 800 V	350 V ... 800 V
No-load voltage	1000 V	1000 V
Max. input current	2 x 17.5 A	2 x 17.5 A
Number of strings	2 x 2	2 x 2
Number of MPP controllers	2	2
Output variables		
Rated output	9000 VA	10000 VA
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	3 x 13.0 A	3 x 14.5 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	0.80 inductive ... 0.80 capacitive	
Number of grid phases	3	3
General electrical data		
Max. efficiency	98.0 %	98.0 %
Europ. efficiency	97.0 %	97.0 %
Night consumption	< 1 W	< 1 W
Switching plan	transformerless	transformerless
Network monitoring	acc. to local requirements	acc. to local requirements
Mechanical data		
Display	graphical display + LEDs	graphical display + LEDs
Control units	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Interfaces	Ethernet, USB, RS485, S0	
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*	-25 °C ... +60 °C*
Cooling	temperature-dependent fan	temperature-dependent fan
Protection class	IP65	IP65
Noise emission	< 45 dB (A) (noiseless when operated without fan)	
DC-switch	integrated	integrated
Casing	aluminium casting	aluminium casting
H x W x D	690 x 420 x 200 mm	690 x 420 x 200 mm
Weight	approx. 40 kg	approx. 40 kg

* Power derating at high ambient temperatures

Electrical data	14.0 TL3
Input variables	
PV max. generator output	14000 W
MPP range	350 V ... 800 V
No-load voltage	1000 V
Max. input current	2 x 17.5 A
Number of strings	2 x 2
Number of MPP controllers	2
Output variables	
Rated output	12000 VA
Supply voltage	acc. to local requirements
Rated current	3 x 17,4 A
Rated frequency	50 Hz / 60 Hz
cos phi	0.80 inductive ... 0.80 capacitive
Number of grid phases	3
General electrical data	
Max. efficiency	98.0 %
Europ. efficiency	97.0 %
Night consumption	< 1 W
Switching plan	transformerless
Network monitoring	acc. to local requirements
Mechanical data	
Display	graphical display + LEDs
Control units	4-way navigation + 2 buttons
Interfaces	Ethernet, USB, RS485, S0
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

* Power derating at high ambient temperatures



Powador 10.0 TL3 12.0 TL3 | 14.0 TL3

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