



The Power Plants of the Future. With a transformer.

Galvanically isolated three-phase inverters Powador 16.0 TR3 and 18.0 TR3.

Are you designing a larger solar system with modules that need to be grounded? Powador 16.0 TR3 and 18.0 TR3 three-phase inverters are transformerless units that provide the perfect solution for safely connecting your system to the grid. 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. It goes without saying that they meet all of the requirements of Germany's new Medium Voltage Directive ("Mittelspannungsrichtlinie") and they are also perfectly equipped to comply with the pending Low Voltage Directive ("Niederspannungsrichtlinie").

Three strings can be connected per MPP controller, which means that the units can process the solar power from nine

strings. They operate with three separate MPP trackers to allow for optimum adjustment. The peak efficiency is 96.2%. Cooling is provided by demand-driven fans that are aimed directly at the temperature-sensitive components.

It is easy to achieve perfect communication with both 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 a graphic display to view operating data. The latest software updates are available at www.kaco-newenergy.de/service. With all of the equipment that is included, users no longer need a separate data logger.

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. You save money because the separation connection box makes installation extremely easy. All components needed for grounding the PV generator are included. You can find videos that quickly show you the installation procedures on our website.

Naturally, our three-phase units can be combined with each other, so they are suitable for significantly higher power ratings. The connection is also prepared for standalone use.

Technical data

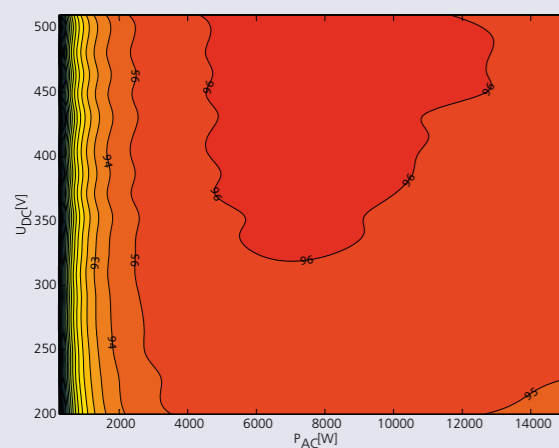
Powador 16.0 TR3 | 18.0 TR3

Electrical data	16.0 TR3	18.0 TR3
Input variables		
PV max. generator output	16 000 W	18 000 W
MPP range	200 V ... 510 V	200 V ... 510 V
No-load voltage	600 V*	600 V*
Max. input current	3 x 26 A	3 x 26 A
Number of MPP trackers	3	3
Number of strings	3 x 3	3 x 3
Output variables		
Rated output	13 500 VA	15 000 VA
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	3 x 19.5 A	3 x 21.7 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	3	3
General electrical data		
Max. efficiency	96.2 %	96.2 %
European efficiency	95.6 %	95.7 %
Night consumption	1.9 W	1.9 W
Switching plan	self-commutated, galvanically isolated, HF transformer	self-commutated, galvanically isolated, HF transformer
Grid 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 output	Ethernet, USB, RS485, S0 output
Fault signalling relay	potential-free NOC max. 230 V / 1 A	potential-free NOC max. 230 V / 1 A
Connections	screw terminals within the device (max. cross section: 16 mm ² flexible) cable supply via cable connections (DC-connection M16, AC-connection M40)	screw terminals within the device (max. cross section: 16 mm ² flexible) cable supply via cable connections (DC-connection M16, AC-connection M40)
Ambient temperature	-25 °C ... +60 °C**	-25 °C ... +60 °C**
Cooling	fan	fan
Protection class	IP54	IP54
Noise emission	< 45 dB (A) (noiseless when operated without fan)	< 45 dB (A) (noiseless when operated without fan)
DC-switch	integrated	integrated
Casing	aluminium casting	aluminium casting
H x W x D	948 x 510 x 269 mm	948 x 510 x 269 mm
Weight	80 kg	80 kg

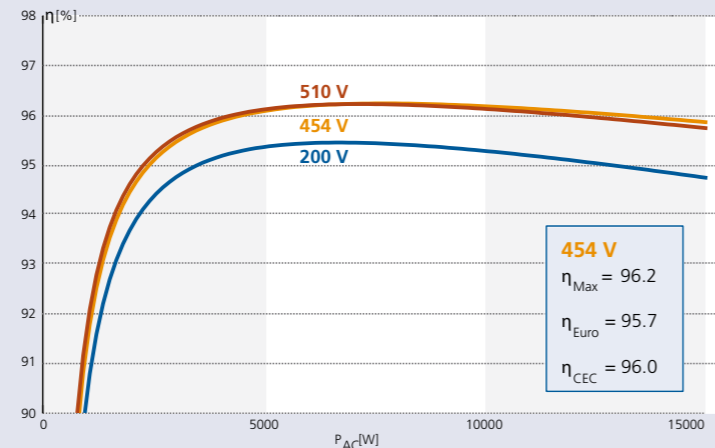
* To protect the hardware, the inverter starts up only at < 550 V / ** Power derating at high ambient temperatures
Applicable standards and regulations are taken into account for each country version that is set.

Graphical display of efficiency

3D efficiency diagram for Powador 18.0 TR3



Efficiency characteristic curves for Powador 18.0 TR3





Powador 16.0 TR3 | 18.0 TR3

96.2% efficiency

Three MPP trackers

Multilingual menu

Graphical display

Integrated web server

USB connection for updates

Grounding of PV generator possible
Optimally suited for thin-film modules

Your retailer