

Data sheet  
Powador 30.0 TL3  
37.5 TL3 | 39.0 TL3



# Efficient – Flexible – Future-oriented.

Transformerless three-phase inverters Powador 30.0 TL3 to 39.0 TL3.

Based on the idea of the successful 30-kW family and the switching concept of the Powador 14.0 TL3, we have completely redesigned these units. 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").

These inverters give you extreme flexibility in designing your PV system. They operate with three separate MPP trackers that can also handle asymmetric loads to allow for optimum adjustment. Each tracker is able to process 20 kW. This allows for all typical requirements of complex designs to be fulfilled; on the one hand, for example, full configuration of an east/west-facing roof (symmetrical load) or, on the other hand, the regular configuration of a south-facing roof without having to dispense with the solar yield of a dormer (asymmetrical load). We recommend our new PV Pilot software for an optimum design.

Furthermore, all 3D efficiency diagrams are available on our website to assist you.

1 or 4 strings can be connected for each MPP controller depending on the version, therefore 3 or 12 strings for each device. The nominal input voltage range is extremely wide: 350 to 800 V. The TL3 connects to the grid from 250 V upwards, but once in operation can continue to feed in with as little as 200 V thus ensuring that even low solar yields are reaped.

The peak efficiency is an impressive 98% but this TL3 realises a very high partial load peak efficiency in the lower power ranges thanks to the innovative solution for the design and control of the inverter bridge: Even at just 5% rated power they operate at 95% efficiency. Cooling is provided by demand-driven fans that are aimed directly at the temperature-sensitive components.

It is easy to achieve perfect communication with these units. In addition to the normal RS485 interface, which enables you to query yield data using the Powador-proLOG, they offer highly convenient innovations: 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](http://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.

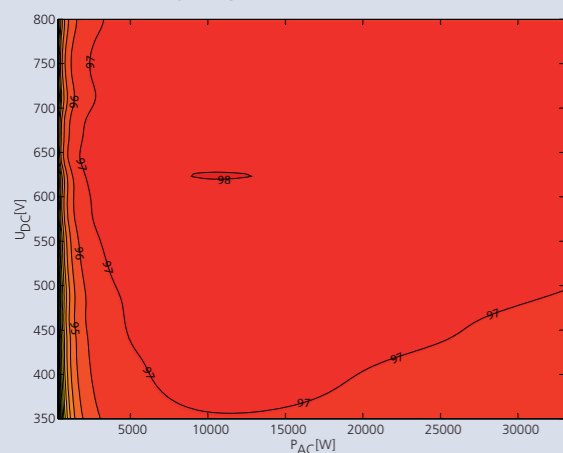
You save money because the separation connection box makes installation extremely easy. You can find videos that quickly show you the installation procedures on our website.

Naturally, our three-phase units can be combined with each other and are therefore also suitable for significantly higher power ratings.

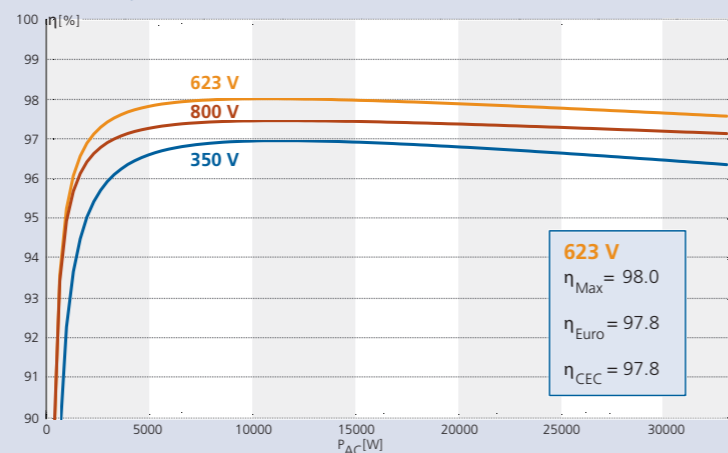
You can operate the units with an integrated generator junction box (GJB) or the external combiner box Powador Mini-Argus.

Graphical display of efficiency

3D efficiency diagram for Powador 39.0 TL3



Efficiency characteristic curves for Powador 39.0 TL3



# Technical data

Powador 30.0 TL3 | 37.5 TL3 | 39.0 TL3

Electrical data	30.0 TL3	37.5 TL3	39.0 TL3
<b>Input variables</b>			
PV max. generator output	30 000 W	37 500 W	39 000 W
MPP range	350 V ... 800 V	350 V ... 800 V	350 V ... 800 V
Starting voltage	250 V	250 V	250 V
Min. DC voltage	200 V*	200 V*	200 V*
No-load voltage	1 000 V	1 000 V	1 000 V
Max. input current	3x34.0 A	3x34.0 A	3x34.0 A
Number of MPP trackers	3	3	3
Max. power/tracker	20 kW	20 kW	20 kW
Number of strings per MPP trackers	3x1 based on design M / 3x4 based on design XL	3x1 based on design M / 3x4 based on design XL	3x1 based on design M / 3x4 based on design XL
<b>Output variables</b>			
Rated output	25 000 VA	30 000 VA	33 300 VA
Line voltage	acc. to local requirements	acc. to local requirements	acc. to local requirements
Rated current	3x36.2 A	3x43.5 A	3x48.3 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	0.80 inductive ... 0.80 capacitive	0.80 inductive ... 0.80 capacitive	0.80 inductive ... 0.80 capacitive
Number of grid phases	3	3	3
<b>General electrical data</b>			
Max. efficiency	98.0 %	98.0 %	98.0 %
European efficiency	97.8 %	97.8 %	97.8 %
Night consumption	≈ 1,5 W	≈ 1,5 W	≈ 1,5 W
Switching plan	self-inverted, transformerless	self-inverted, transformerless	self-inverted, transformerless
Grid monitoring	acc. to local requirements	acc. to local requirements	acc. to local requirements
<b>Mechanical data</b>			
Display	graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
Control units	4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Interfaces	Ethernet, USB, RS485, S0 output	Ethernet, USB, RS485, S0 output	Ethernet, USB, RS485, S0 output
Fault signalling relay	potential-free NOC max. 230 V / 1 A		
Connections	AC connection via screw terminals, bushing 1 x M50, max cross section: 50 mm <sup>2</sup> (flexible); DC connection of M version: spring-type terminals 6-35 mm <sup>2</sup> **; DC connection of XL version: screw and spring-type terminals 10 mm <sup>2</sup> , bushing 6 x M32		
Ambient temperature	-20 °C ... +60 °C***	-20 °C ... +60 °C***	-20 °C ... +60 °C***
Temperature monitoring	> 75 °C temperature-dependent impedance matching, > 85 °C cut-out		
Cooling	forced cooling / RPM-regulated fan. max. 600 m <sup>3</sup> / h		
Protection class	IP54	IP54	IP54
Noise emission	58 dB (A) (only fan noise)	58 dB (A) (only fan noise)	58 dB (A) (only fan noise)
DC switch	integrated	integrated	integrated
Casing	sheet steel	sheet steel	sheet steel
H x W x D	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm
Weight	151 kg	151 kg	151 kg

\* The possible output power is reduced at voltages lower than 350 V. The input current is limited to 34.0 A per input.

\*\* Only in conjunction with external Powador Mini-Argus

\*\*\* Power derating at high ambient temperatures

Conforms to the country-specific standards and regulations according to the country version that has been set.



## Powador 30.0 TL3 37.5 TL3 | 39.0 TL3

98.0 % efficiency

Three MPP trackers,  
asymmetrical loading possible

Multilingual menu

Graphical display

Integrated web server

USB connection for updates

Your retailer

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