

Data sheet

Powador

48.0 TL3 Park

72.0 TL3 Park



# The Park has the power.

The transformerless three-phase inverters Powador 48.0 TL3 Park and 72.0 TL3 Park.

The Powador 48.0 TL3 Park and 72.0 TL3 Park are transformerless three-phase inverters that with their output voltage of 480 V are particularly suitable for connection to external transformers of large decentralised systems.

These units give you flexibility in designing your PV system. They operate using three separate MPP trackers that can handle both symmetrical and asymmetrical loads to allow for optimum adjustment. Every tracker of the Powador 48.0 TL3 Park can process 20 kW; the Powador 72.0 TL3 Park can process 24 kW per unit. This enables them to meet all the typical demands of more complex designs involved with inhomogeneous installation of the photovoltaic generator. Depending on the design of the units, one string (M version) or four strings (XL version) can be connected per MPP tracker. Each of the three MPP trackers of the Powador 72.0 TL3 Park

XL can even be connected to five strings. The input voltage range is particularly broad: the inverters switch to the grid from 250 V, and, when in operation, they still feed in at 200 V. The peak efficiency is 98 %. The European efficiency is also worth noting and is due to the fact that the unit has a very high partial load efficiency in the lower power ranges. Even at just 5 % rated power they operate at 95 % efficiency.

It is easy to achieve perfect communication with these units. They are fitted with an integrated data logger with web server, a graphical display for showing operating data and a USB port for installing firmware updates. The current software can be downloaded from the download area of [www.kaco-newenergy.com](http://www.kaco-newenergy.com). The yield data can be called via USB or the web server. The integrated data logger can also be connected directly to the Powador web internet portal for profes-

sional evaluation and visualisation of the operating data.

A number of country-specific default settings are programmed into the inverters. These are easy to select during on-site installation. The interface language can be selected separately.

The integrated string collector with string fuses and overvoltage protection for the XL version of the units opens up significant cost advantages. The M version uses the external Powador Mini-Argus string collector instead.

Two additional XL versions now provide extraordinary flexibility:

- XL-F with fusing at the plus and minus inputs
- XL-SPD 1+2 with class 1 & 2 surge protection devices in front of each MPP tracker.

# Technical data

Powador 48.0 TL3 Park | 72.0 TL3 Park

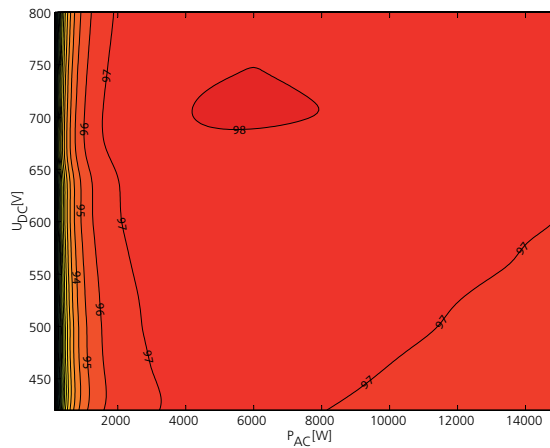
Electrical data	48.0 TL3 Park	72.0 TL3 Park
<b>Input variables</b>		
MPP range	200 V ... 800 V*	200 V ... 850 V**
Starting voltage	250 V	250 V
No-load voltage	1 000 V	1 000 V
Max. input current	3x34.0 A	3x36.0 A
Number of MPP trackers	3	3
Max. power/tracker	20 kW	24 kW
Number of strings	3x1 based on design M 3x4 based on design XL	3x1 based on design M 3x5 based on design XL 3x4 based on design XL-F
<b>Output variables</b>		
Rated output (@ 277 V)	40 000 VA	60 000 VA
Line voltage	480 V / 277 V (3 / N / PE)	480 V / 277 V (3 / N / PE)
Rated current	3x48.1 A	3x72.2 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
<b>General electrical data</b>		
Max. efficiency	98.0 %	98.3 %
European efficiency	97.9 %	98.0 %
Night consumption	1.5 W	1.5 W
Switching plan	transformerless	transformerless
Certifications	overview: see homepage / download area	overview: see homepage / download area
<b>Mechanical data</b>		
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, digital input "inverter off"	Ethernet, USB, RS485, S0 output, digital input "inverter off"
Fault signalling relay	potential-free NOC max. 230 V / 1 A	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 48.0 TL3 Park 6 x M32 / 72.0 TL3 Park 6 x M40	
Ambient temperature	-20 °C ... +60 °C****	-20 °C ... +60 °C****
Cooling	fan, max. 600 m <sup>3</sup> / h	fan, max. 600 m <sup>3</sup> / h
Protection class	IP54	IP54
Noise emission	58 dB (A) (only fan noise)	58 dB (A) (only fan noise)
DC switch	integrated	integrated
H x W x D	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm
Weight	151 kg	173 kg
<b>Product variants</b>		
Version M	DC switch	
Version XL	DC switch / fuse protection DC input plus / overvoltage protection type 2	
Version XL-SPD 1+2	DC switch / fuse protection DC input plus / overvoltage protection type 1 + 2	
Version XL-F	DC switch / fuse protection DC input plus and minus / overvoltage protection type 2	
Version XL-F-SPD1+2	DC switch / fuse protection DC input plus and minus / overvoltage protection type 1 + 2	

\* The possible input power is reduced at voltages lower than 410 V. The input current is limited to 34.0 A per input. \*\* The possible input power is reduced at voltages lower than 580 V. The input current is limited to 36.0 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.



## Graphical Display of efficiency

3D efficiency diagram for Powador 48.0 TL3 Park



Powador  
 30.0 TL3 | 33.0 TL3  
 36.0 TL3 | 39.0 TL3  
 40.0 TL3 | 60.0 TL3

98.0 % efficiency

3 MPP trackers, symmetrical  
 and asymmetrical loading possible

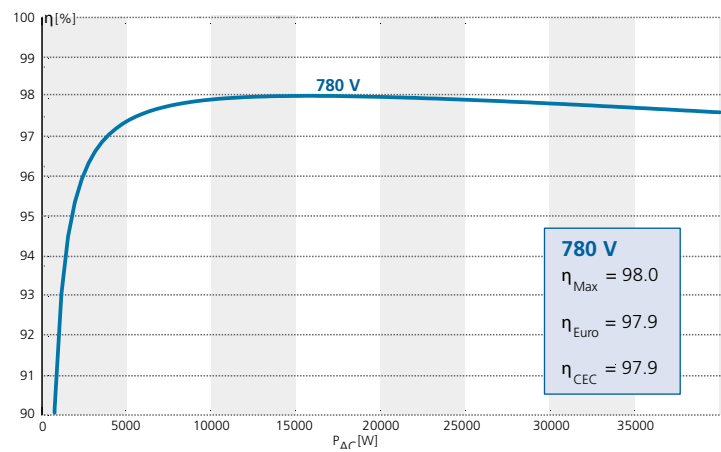
Multilingual menu

Cost-saving DC input configuration  
 available

Integrated web server

USB connection for updates

Efficiency characteristic curve for Powador 48.0 TL3 Park



Your retailer