



## Data sheet

### Powador

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

# Efficient. Flexible. Future-oriented.

The transformerless, three-phase inverters Powador 30.0 TL3 to 60.0 TL3.

The transformerless, 3-phase Powador 30.0 TL3 to 60.0 TL3 inverters are designed specifically for decentralised installation of photovoltaic systems for commercial and industrial applications, such as hangars and factory roofs.

These units give you extreme 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. Each tracker is able to process 20 kW. This enables them to meet all the typical demands of more complex designs involved with inhomogenous installation of the photovoltaic generator. Three MPP trackers can also compensate for mismatches between modules, such as those resulting from temperature differences and uneven solar radiation. Depending on the design of the units, one string (M version) or four strings (XL ver-

sion) can be connected per MPP tracker. 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 200V to ensure the solar yield from comparatively small areas. Maximum efficiency amounts to approx. 98 %, and up to 97.8 % European efficiency is furthermore quite remarkable. 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 free of charge from the download area of our homepage. The yield data can be called from the web server or via USB for evaluation. The integrated data logger

can also be connected directly to an internet portal for professional evaluation and visualisation of the inverter 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. Extraordinary flexibility is provided by the following variants:

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

# Technical data

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

Electrical data	30.0 TL3	33.0 TL3	36.0 TL3
DC input			
MPP range@Phom <sup>1)</sup>	260 V ... 800 V	280 V ... 800 V	310 V ... 800 V
Operating range	200 V ... 950 V	200 V ... 950 V	200 V ... 950 V
Min. DC voltage/start voltage	200 V / 250 V	200 V / 250 V	200 V / 250 V
No-load voltage	1 000 V	1 000 V	1 000 V
Max. input current	3 x 34.0 A	3 x 34.0 A	3 x 34.0 A
Number of MPP trackers	3	3	3
Max. power/tracker	20 kW	20 kW	20 kW
Number of strings	3 x 1 (version M) / 3 x 4 (version XL)		
AC output			
Rated output (@230 V)	25 000 VA	27 500 VA	30 000 VA
Line voltage	acc. to local requirements	acc. to local requirements	acc. to local requirements
Rated current	3x36.2 A	3x39.9 A	3x43.5 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
General electrical data			
Efficiency max. / european	98.0 % / 97.8 %	98.0 % / 97.8 %	98.0 % / 97.8 %
Night consumption	1.5 W	1.5 W	1.5 W
Circuitry topology	transformerless	transformerless	transformerless
Mechanical data			
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, digital input “inverter off”		
Fault signalling relay	Potential-free NO contact, max. 30 V DC / 1A or 230 V AC / 1 A		
Connections	AC connection via screw terminals, bushing 1xM50, max cross section: 50 mm <sup>2</sup> (flexible); DC connection of M version: spring-type terminals 6-35 mm <sup>2</sup> <sup>3)</sup> ; DC connection of XL version: screw and spring-type terminals 10 mm <sup>2</sup>		
Ambient temperature	-20 °C ... +60 °C <sup>2)</sup>	-20 °C ... +60 °C <sup>2)</sup>	-20 °C ... +60 °C <sup>2)</sup>
Cooling	fan, max. 600 m <sup>3</sup> / h	fan, max. 600 m <sup>3</sup> / h	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
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
Product variants			
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-SPD 1+2	DC switch / fuse protection DC input plus and minus / overvoltage protection type 1+2		
Certifications			
Safety	IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-12/-11		
Grid compliance	VDE 0126, VDE-AR-N 4105, BDEW, G59/3, IEC 61727, IEC 62116, EN 50438, ... for more see homepage/download area		

<sup>1)</sup> by symmetrical assignment of the MPP trackers. <sup>2)</sup> Power derating at high ambient temperatures.

39.0 TL3	40.0 TL3	60.0 TL3
340 V ... 800 V	370 V ... 800 V	480 V ... 850 V
200 V ... 950 V	200 V ... 950 V	200 V ... 950 V
200 V / 250 V	200 V / 250 V	200 V / 250 V
1 000 V	1 000 V	1 000 V
3 x 34.0 A	3 x 34.0 A	3 x 36.0 A
3	3	3
20 kW	20 kW	20 kW
3 x 1 (version M) / 3 x 4 (version XL)		
33 300 VA	36 000 VA	49 900 VA
acc. to local requirements	acc. to local requirements	acc. to local requirements
3 x 48.3 A	3 x 52.2 A	3 x 72.2 A
50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
0.80 inductive ... 0.80 capacitive	0.80 inductive ... 0.80 capacitive	0.80 inductive ... 0.80 capacitive
3	3	3
98.0 % / 97.8 %	97.5 % / 97.2 %	97.8 % / 97.6 %
1.5 W	1.5 W	1.5 W
transformerless	transformerless	transformerless
graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Ethernet, USB, RS485, S0 output, digital input “inverter off”		
Potential-free NO contact, max. 30 V DC / 1A or 230 V AC / 1 A		
AC connection via screw terminals, bushing 1 x M50, max cross section: 50 mm² (flexible); DC connection of M version: spring-type terminals 6-35 mm² <sup>3)</sup> ; DC connection of XL version: screw and spring-type terminals 10 mm²		
-20 °C ... +60 °C <sup>2)</sup>	-20 °C ... +60 °C <sup>2)</sup>	-20 °C ... +60 °C <sup>3)</sup>
fan, max. 600 m³ / h	fan, max. 600 m³ / h	fan, max. 600 m³ / h
IP54	IP54	IP54
58 dB(A) (only fan noise)	58 dB(A) (only fan noise)	58 dB(A) (only fan noise)
integrated	integrated	integrated
1 360 x 840 x 355 mm	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm
151 kg	151 kg	173 kg
DC switch		
DC switch / fuse protection DC input plus / overvoltage protection type 2		
DC switch / fuse protection DC input plus / overvoltage protection type 1 + 2		
DC switch / fuse protection DC input plus and minus / overvoltage protection type 2		
DC switch / fuse protection DC input plus and minus / overvoltage protection type 1+2		
IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-12/-11		
VDE 0126, VDE-AR-N 4105, BDEW, G59/3, IEC 61727, IEC 62116, EN 50438, ... for more see homepage/download area		

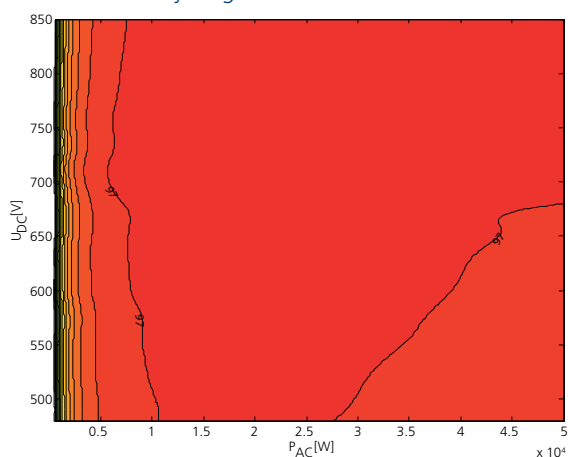
<sup>3)</sup> Possible power derating at temperatures above 40 °C. Conforms to the country-specific standards and regulations according to the country version that has been set.



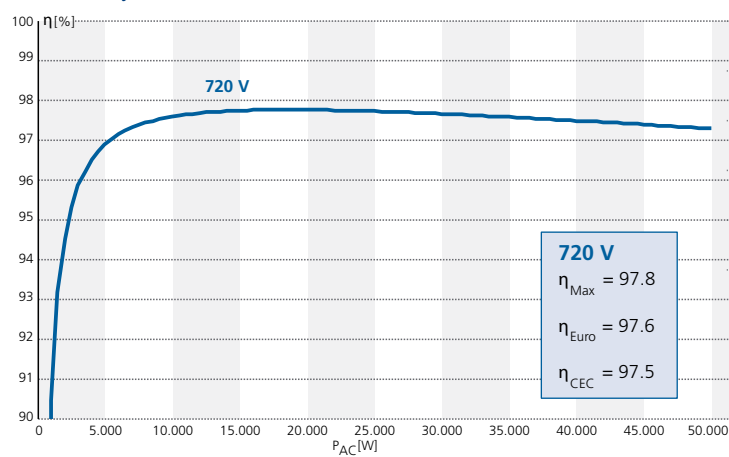
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## Graphical Display of efficiency

3D efficiency diagram for Powador 60.0 TL3



Efficiency characteristic curve for Powador 60.0 TL3



Up to 98.0 % efficiency

3 MPP trackers, symmetrical  
and asymmetrical loading possible

Multilingual menu

Cost-saving DC input configuration  
available

Integrated data logger with  
web server

USB connection for updates

Your retailer