



Data sheet

Powador

7700 | 7900

8900 | 9600

## Champions of the middleweights.

The transformerless string inverters Powador 7700 – 9600.

All Powador 7700 to 9600\* units are equipped with digital controllers so that they can be used internationally. The appropriate country settings can easily be selected on-site; the country-specific settings are stored in the software, so the inverters can be quickly and easily installed anywhere in the world. The menu language can be selected independently from the country-specific settings. The units also comply with the German Low Voltage Directive and the Medium Voltage Directive.

All three units include transformerless topology without a step-up converter. DC switch is already integrated. This provides maximum safety and reliability for the system operator and makes the installer's job easier.

These inverters are designed as a trio, with each unit feeding into one of the three phases. This allows each unit to optimally utilise the voltage range of a photovoltaic system that has been divided into three sub-generators.

The integrated Sym-Bus ensures that any potential asymmetry does not exceed the maximum permitted limit of 4.6 kW, even when there is a fault in a unit. They represent an alternative to central inverters (depending on the system design). Since all of our transformerless string inverters can also be combined with one another as required, they allow you almost unlimited freedom in planning, from 2 kW up to the megawatt class.

\* Successors to Powador 6400xi – 8000xi inverters

# Technical data

Powador 7700 | 7900 | 8600 | 9600

Electrical data	7700	7900
<b>Input variables</b>		
Max. recommended PV generator power	7700 W	7900 W
MPP range	350 V ... 600 V	350 V ... 600 V
No-load voltage	800 V	800 V
Max. input current	19.0 A	19.7 A
Number of strings	4	4
Number of MPP trackers	1	1
String fuses	2 short-circuit bridges (fuses optional)	2 short-circuit bridges (fuses optional)
Inverse polarity protection	short-circuit diode	short-circuit diode
<b>Output variables</b>		
Rated output	6400 VA	6650 VA
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	27.8 A	28.9 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	1	1
<b>General electrical data</b>		
Max. efficiency	96.6 %	96.7 %
European efficiency	96.2 %	96.2 %
Night consumption	0 W	0 W
Switching plan	self-commutated, transformerless	self-commutated, transformerless
Grid monitoring	acc. to local requirements	acc. to local requirements
<b>Mechanical data</b>		
Display	LCD 2 x 16 characters	LCD 2 x 16 characters
Control units	2 buttons for display control	2 buttons for display control
Interfaces	RS485, S0, Sym-Bus	RS485, S0, Sym-Bus
Fault signalling relay	potential-free NOC max. 250 V / 1 A	potential-free NOC max. 250 V / 1 A
Connections	AC connection: PCB terminals within device (max. cross section: 10 mm <sup>2</sup> ), cable supply via cable connection (M32). DC connection: 4 strings via PCB terminals (max. cross section: 6 mm <sup>2</sup> ), cable supply via cable connections (M16). Optional DC connection: 1 x Plus, 1 x Minus without string fuses via PCB terminals (max. cross section: 10 mm <sup>2</sup> ).	AC connection: PCB terminals within device (max. cross section: 10 mm <sup>2</sup> ), cable supply via cable connection (M32). DC connection: 4 strings via PCB terminals (max. cross section: 6 mm <sup>2</sup> ), cable supply via cable connections (M16). Optional DC connection: 1 x Plus, 1 x Minus without string fuses via PCB terminals (max. cross section: 10 mm <sup>2</sup> ).
Ambient temperature	-20 °C ... +60 °C*	-20 °C ... +60 °C*
Temperature monitoring power stage	temperature-dependent impedance matching with emergency cut-out when device errors occur	temperature-dependent impedance matching with emergency cut-out when device errors occur
Cooling	free convection / no fan	free convection / no fan
Protection class	IP54	IP54
Noise emission	< 35 dB (A) (noiseless)	< 35 dB (A) (noiseless)
DC switch	integrated	integrated
Casing	aluminium	aluminium
H x W x D	810 x 340 x 220 mm	810 x 340 x 220 mm
Weight	38 kg	38 kg

\*Derating at higher temperatures

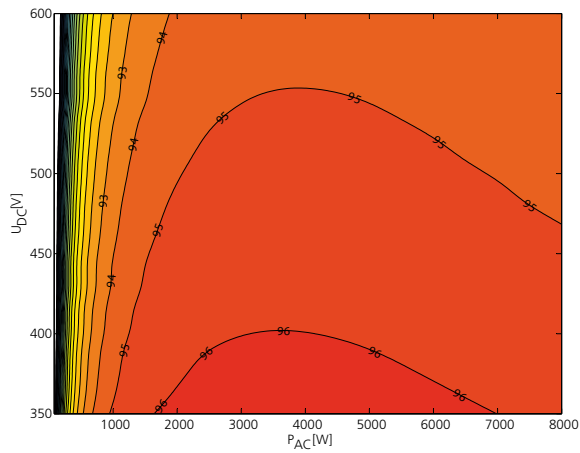
Electrical data	8600	9600
<b>Input variables</b>		
Max. recommended PV generator power	8600 W	9600 W
MPP range	350 V ... 600 V	350 V ... 600 V
No-load voltage	800 V	800 V
Max. input current	21.4 A	24.0 A
Number of strings	4	4
Number of MPP trackers	1	1
String fuses	2 short-circuit bridges (fuses optional)	2 short-circuit bridges (fuses optional)
Inverse polarity protection	short-circuit diode	short-circuit diode
<b>Output variables</b>		
Rated output	7200 VA	8000 VA
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	31.3 A	35.0 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	1	1
<b>General electrical data</b>		
Max. efficiency	96.6 %	96.6 %
European efficiency	96.2 %	96.2 %
Night consumption	0 W	0 W
Switching plan	self-commutated, transformerless	self-commutated, transformerless
Grid monitoring	acc. to local requirements	acc. to local requirements
<b>Mechanical data</b>		
Display	LCD 2 x 16 characters	LCD 2 x 16 characters
Control units	2 buttons for display control	2 buttons for display control
Interfaces	RS485, S0, Sym-Bus	RS485, S0, Sym-Bus
Fault signalling relay	potential-free NOC max. 250 V / 1 A	potential-free NOC max. 250 V / 1 A
Connections	AC connection: PCB terminals within device (max. cross section: 10 mm <sup>2</sup> ), cable supply via cable connection (M32). DC connection: 4 strings via PCB terminals (max. cross section: 6 mm <sup>2</sup> ), cable supply via cable connections (M16). Optional DC connection: 1 x Plus, 1 x Minus without string fuses via PCB terminals (max. cross section: 10 mm <sup>2</sup> ).	AC connection: PCB terminals within device (max. cross section: 10 mm <sup>2</sup> ), cable supply via cable connection (M32). DC connection: 4 strings via PCB terminals (max. cross section: 6 mm <sup>2</sup> ), cable supply via cable connections (M16). Optional DC connection: 1 x Plus, 1 x Minus without string fuses via PCB terminals (max. cross section: 10 mm <sup>2</sup> ).
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Cooling	free convection / no fan	free convection / no fan
Protection class	IP54	IP54
Noise emission	< 35 dB (A) (noiseless)	< 35 dB (A) (noiseless)
DC switch	integrated	integrated
Casing	aluminium	aluminium
H x W x D	810 x 340 x 220 mm	810 x 340 x 220 mm
Weight	38 kg	38 kg

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## Graphical Display of efficiency

3D efficiency diagram for Powador 9600



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8600 | 9600

Capable of reactive power,  
conforms to the German Medium  
and Low Voltage Directives

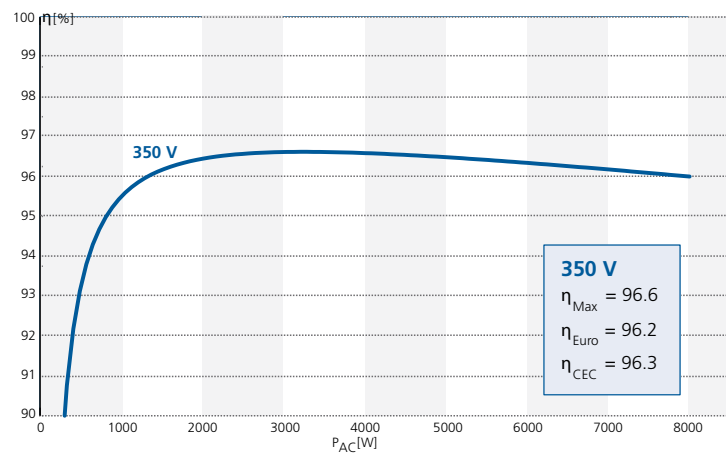
Additional asymmetry monitoring  
via special KACO Sym-Bus

5-years factory warranty plus  
2-years when the unit is registered

Preconfigured international  
country settings

Menu language can be chosen  
as required

Efficiency characteristic curve for Powador 9600



Your retailer