



K A C O 
new energy.

Powador

6400 | 6650

7200 | 8000

supreme

Champions of the middleweights.

The transformerless string inverters Powador 6400 supreme – 8000 supreme.

The supreme concept that we started with the Powador 4000 has paid off. The unit pleased our customers and was also very impressive at the Photon inverter test. The new supreme inverters now combine the advantages of this concept with those of our best-selling units that have power ratings from 6.4 kW to 8 kW of AC rated power. Those who know how to design their PV systems for maximum yields will be well served by these units.

With the standard setting, the supreme inverters operate with a clock frequency of 18 kHz. For those who want to get even more out of these units, they can set a jumper on the control circuit board to operate them in Power Boost mode with a clock frequency of 9 kHz. That reduces the already-low switching losses of the power semiconductor even further and makes the degree of efficiency even higher. This operating mode

is recommended for locations where the resulting operating noise is not a particular issue.

For a strong performance, these inverters were 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 the supreme series inverters can be freely combined, these units allow you almost unlimited freedom in planning, from medium-sized systems up to the megawatt class.

Highlights

- Power Boost on / off: 9 kHz / 18 kHz (selectable clock frequency)
- Integrated string fuses for up to 4 strings
- Additional asymmetry monitoring via special KACO Sym-bus
- Protection class IP54
- Easy installation with mounting plate and housing doors
- LCD as standard
- 7 year guarantee as standard

Technical data

Powador 6400 supreme | 6650 supreme | 7200 supreme | 8000 supreme

Electrical data	6400 supreme	6650 supreme
Input variables		
PV max. generator output	7200 W	7500 W
MPP range	350 V ... 510 V	350 V ... 510 V
No-load voltage	600 V*	600 V*
Max. input current	19 A	19.7 A
Number of strings	4	4
Number of MPP controllers	1	1
String fuses	4 x 10 A	4 x 10 A
Inverse polarity protection	short-circuit diode	short-circuit diode
Output variables		
Rated output	6400 W	6650 W
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	27.8 A	28.9 A
Rated frequency	50 Hz	50 Hz
cos phi	≈ 1	≈ 1
Number of grid phases	1	1
General electrical data		
Max. efficiency	97,0 % (97,3 % @ 9 kHz)	96,9 % (97,3 % @ 9 kHz)
European efficiency	96,5 % (96,7 % @ 9 kHz)	96,5 % (96,7 % @ 9 kHz)
Night consumption	0 W	0 W
Switching plan	self-commutated, transformerless	self-commutated, transformerless
Network monitoring	acc. to local requirements	acc. to local requirements
Mechanical data		
Displays	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. 30 V / 1 A	potential-free NOC max. 30 V / 1 A
Connections	AC-connection: PCB terminals within device (max. cross section: 10 mm ²), cable supply via cable connection (M32). DC-connection: 4 strings via PCB terminals (max. cross section: 6 mm ²), 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 ²)	
Ambient temperature	-20 °C ... +60 °C**	-20 °C ... +60 °C**
Temperature monitoring	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

* To protect the hardware, the unit starts up at < 550 V / ** Power derating at high ambient temperatures

Electrical data	7200 supreme	8000 supreme
Input variables		
PV max. generator output	8100 W	9000 W
MPP range	350 V ... 510 V	350 V ... 510 V
No-load voltage	600 V*	600 V*
Max. input current	21,4 A	24,0 A
Number of strings	4	4
Number of MPP controllers	1	1
String fuses	4 x 10 A	4 x 10 A
Inverse polarity protection	short-circuit diode	short-circuit diode
Output variables		
Rated output	7200 W	8000 W
Supply voltage	acc. to local requirements	acc. to local requirements
Rated current	31.3 A	35.0 A
Rated frequency	50 Hz	50 Hz
cos phi	≈ 1	≈ 1
Number of grid phases	1	1
General electrical data		
Max. efficiency	97,1 % (97,4 % @ 9 kHz)	97,2 % (97,5 % @ 9 kHz)
European efficiency	96,7 % (97,0 % @ 9 kHz)	96,8 % (97,0 % @ 9 kHz)
Night consumption	0 W	0 W
Switching plan	self-commutated, transformerless	self-commutated, transformerless
Network monitoring	acc. to local requirements	acc. to local requirements
Mechanical data		
Displays	LCD 2 x 16 characters	LCD 2 x 16 characters
Control Units	2 buttons for display control	2 buttons for display control
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