KACO new energy.

Powador 25000xi
Powador 30000xi
Powador 33000xi
Park Series

Maximum Efficiency and Flexibility.

For PV Plants from 25 kW up to the Megawatt Range.

The achievers among central inverters.

Our central inverters Powador 25000xi, 30000xi and 33000xi have been developed for highest output and demanding tasks in large-scale PV plants and those equipped with tracking systems. Our central inverters are based on the tried and tested KACO Powador technology without step-up converter. The 3 DC inputs each include an independent MPP tracker, which helps to ensure an MPP adaption efficiency of 99 %: maximum electricity yield.

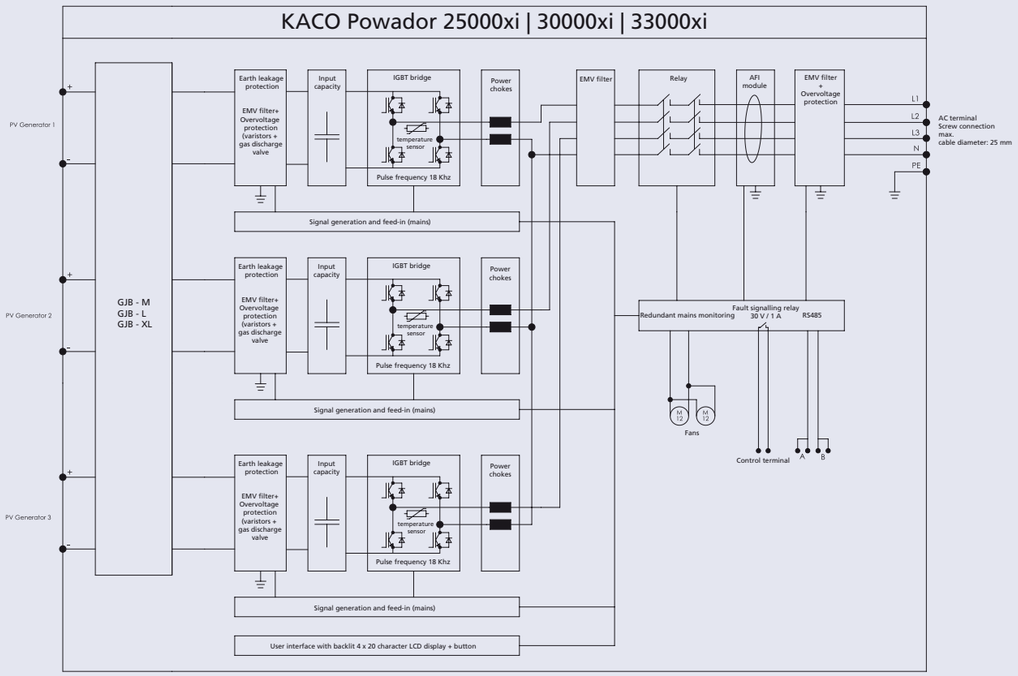
Each phase incorporates a power stack supplying the photovoltaic current with optimal efficiency into the grid. These three independently operating power stacks eliminate the need for additional line monitoring: They are capable of detecting any anomaly in a cable, by the reduced power output of the section in question in comparison to the others. This can then be reported to the system owner via our Powador-proLOG data logger. Throughout the 7 year guarantee, our on-site service promise guarantees a swift response in the event of any malfunction: maximum security.

The DC input voltage of this central inverter is compatible with any of the single-phase transformerless Powadors. Thanks to the new cooling design, whereby the electronics are located in a shielded area, they are also suited for harsh ambient conditions. By freely combining the three devices among each other, you can realize plants up to the megawatt range in small kilowatt steps: maximum scope of application.

Read on and get to know how you can make solar parks even more efficient with our Powador Park series.

Highlights

- High efficiency up to 96.5 %
- One independent MPP tracker per DC input
- Transformerless
- 3-phase monitoring
- 7 year warranty
- On-site service



Technical data

Powador 25000xi | 30000xi | 33000xi

Electrical data	25000xi	30000xi	33000xi
Input variables			
PV max. generator output	30000 W	37500 W	39000 W
MPP range	350 V … 600 V	350 V … 600 V	350 V … 600 V
No-load voltage	800 V	800 V	800 V
Max. input current	3 x 27.4 A	3 x 32.8 A	3 x 33.2 A
Number of strings / MPP controllers	6 based on design M / 5 based on design L, XL	6 based on design M / 5 based on design L, XL	6 based on design M / 5 based on design L, XL
Number of MPP controllers	3	3	3
Output variables			
Rated output	25000 W	29900 W	33300 W
Max. output	27500 W	32900 W	33300 W
Supply voltage	acc. to local requirements	acc. to local requirements	acc. to local requirements
Safety cut-out	acc. to local requirements	acc. to local requirements	acc. to local requirements
Rated current	36.2 A	43.3 A	48.3 A
Max. current	39.9 A	47.7 A	48.3 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	1	1	1
Number of grid phases	3	3	3
Distortion factor for rated output	< 3 %	< 3 %	< 3 %
General electrical data			
Max. efficiency	96.5 %	96.5 %	96.5 %
European efficiency	96.0 %	96.0 %	96.0 %
Standby consumption	< 30 W	< 30 W	< 30 W
Night consumption	7 W	7 W	7 W
Min. grid feed	120 W	120 W	120 W
Switching plan	self-inverted, transformerless	self-inverted, transformerless	self-inverted, transformerless
Network monitoring	acc. to local requirements	acc. to local requirements	acc. to local requirements
Frequency	18 kHz	18 kHz	18 kHz
Mechanical data			
Display	backlit LCD, 4 x 20 characters	backlit LCD, 4 x 20 characters	backlit LCD, 4 x 20 characters
Control units	2 button display control	2 button display control	2 button display control
Interfaces	RS485	RS485	RS485
Fault signalling relay	potential-free NOC max. 30 V / 1 A		
Connections	AC-connection via screw terminals, feed through 1 x M 40; DC-connection via screw terminals, feed through 6 x M 32		
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^3 / 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	1460 x 835 x 340 mm	1460 x 835 x 340 mm	1460 x 835 x 340 mm
Weight	190 kg	190 kg	190 kg

*Derating at higher temperatures

The Specialists for Solar Parks.

Our successful central inverters up to 33 kW capacity are also available as special units optimized for solar parks. The Park series is perfectly suited for outdoor applications and excels in its efficiency rating – 97.4 % are a class of their own in this field.

The Park series differs from its "classmates" in three aspects: 9 kHz pulse frequency, novel Semiconductor technology and improved fan control. The switching losses have thus been reduced considerably, opening up a new dimension of transformerless inverter technology.

The Powador Park inverters have been specially developed for outdoors. The reduced pulse frequency of 9 kHz leads to a low but audible sound. Because of the IP54 protection class, you can install the inverters in the field in close proximity to the PV generator. This saves you the cost for placing the inverters in an additional enclosure or in a separate room. In addition, the cabling is reduced. By the way, cabling gets even easier by using our GJB string collector – turn the page for more information.

Highlights

- High efficiency up to 97.4 %
- Reduced switching losses due to bisection of pulse frequency to 9 kHz
- One independent MPP tracker per DC input
- Transformerless
- 3-phase monitoring
- 7 year warranty
- On-site service

Technical data

Powador 25000xi Park | 30000xi Park | 33000xi Park

Electrical data	25000xi Park	30000xi Park	33000xi Park
Input variables			
PV max. generator output	30000 W	37500 W	39000 W
MPP range	350 V … 600 V	350 V … 600 V	350 V … 600 V
No-load voltage	800 V	800 V	800 V
Max. input current	3 x 26.9 A	3 x 29.2 A	3 x 32.5 A
Number of strings / MPP controllers	6	6	6
Number of MPP controllers	3	3	3
Output variables			
Rated output	25000 W	29900 W	33300 W
Max. output	27500 W	32900 W	33300 W
Supply voltage	acc. to local requirements	acc. to local requirements	acc. to local requirements
Safety cut-out	acc. to local requirements	acc. to local requirements	acc. to local requirements
Rated current	36.2 A	43.3 A	48.3 A
Max. current	39.8 A	47.7 A	48.3 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	1	1	1
Number of grid phases	3	3	3
Distortion factor for rated output	< 3 %	< 3 %	< 3 %
General electrical data			
Max. efficiency	97.4 %	97.4 %	97.4 %
European efficiency	97.0 %	97.0 %	97.0 %
Standby consumption	< 30 W	< 30 W	< 30 W
Night consumption	7 W	7 W	7 W
Min. grid rate	120 W	120 W	120 W
Switching plan	self-inverted, transformerless	self-inverted, transformerless	self-inverted, transformerless
Network monitoring	acc. to local requirements	acc. to local requirements	acc. to local requirements
Frequency	9 kHz	9 kHz	9 kHz
Mechanical data			
Display	backlit LCD, 4 x 20 characters	backlit LCD, 4 x 20 characters	backlit LCD, 4 x 20 characters
Control units	2 button display control	2 button display control	2 button display control
Interfaces	RS485	RS485	RS485
Fault signalling relay	potential-free NOC max. 30 V / 1 A		
Connections	AC-connection via screw terminals, feed through 1 x M 40; DC-connection via screw terminals, feed through 6 x M 32		
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^3 / 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	1460 x 835 x 340 mm	1460 x 835 x 340 mm	1460 x 835 x 340 mm
Weight	190 kg	190 kg	190 kg

*Derating at higher temperatures

Options with integrated generator junction box (GJB).

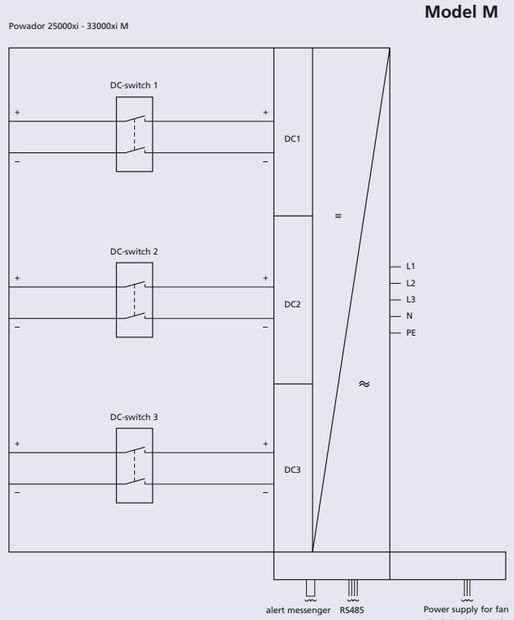
The central inverters Powador 25000xi, 30000xi and 33000xi as well as the Park series come with an integrated generator junction box. You can choose from 3 models.

Model M
- DC circuit breaker installed on the inside of the inverter
- 2 x 16 mm² connecting terminals for each DC input

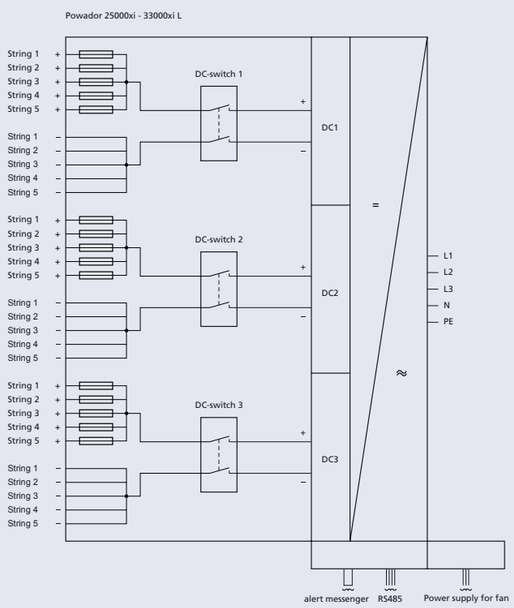
Model L
- Integrated DC circuit breaker
- 5 phase fuses (12 A) per phase
- 10 mm² DC connection terminals in the connecting space

Model XL
- Integrated DC circuit breaker
- 5 phase fuses (12 A) per phase
- Overload protection
- 10 mm² DC connection terminals in the connecting space

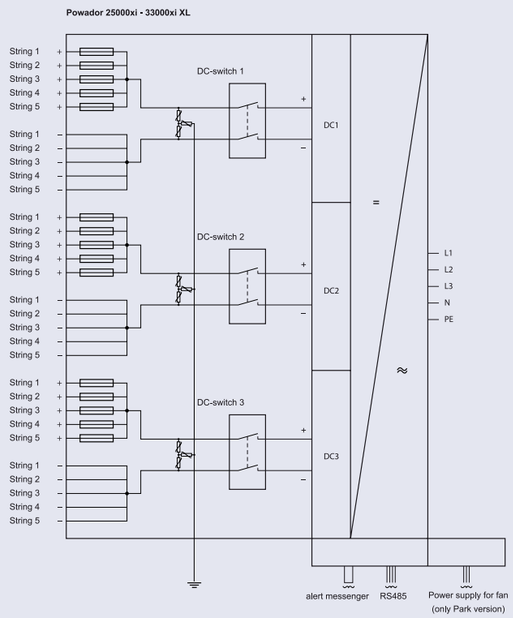
Model M



Model L



Model XL



The external solution: GJB string collector.

If you want to collect the module strings in the close vicinity of the PV modules, KACO offers you a special design – the GJB string collector. It is suitable for the inverters Powador 25000xi, 30000xi and 33000xi as well as the Park series. The GJB string collector incorporates phase fuse and overload protection. As a separate device, it can be installed at a distance from the inverter in outdoor locations: It is dustproof, fully shockproof and protected against water from all directions (protection class IP65).

The GJB string collector is generally used when there is a considerable distance between modules and inverters – it saves you the tedious cabling of all module strings. You need three string collectors per inverter.

Highlights
- Overload protection
- String fuse
- Per inverter: 3 GJB string collectors with 7 strings each
- Protection class IP65

Technical data

GJB string collector 30000xi

Electrical data	
U_{OC} max.	800 V
I_{MPP} max.	36 A
Inputs	7
Terminal string input	spring-loaded terminal up to 6 mm²
Load disconnection point	optional
Phase fuse	8 A in „+“ potential phase fuse 10 x 38 Based on the module types, other fuses may possibly have to be installed.
Overload protection	Class II / „C“ (medium protection) 3 varistors in Y switching
Terminal output	2 x spring terminals up to 16 mm² earthing: screw terminal 16 mm²
Protection class	IP65
Protection rating	II
Casing	Polycarbonate, smoky transparent hinged lid with 2 hinges
Cable entry points	DIN screw connections string inputs M 16; M 20 outputs and earthing
H x W x D	300 x 300 x 180 mm

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Powador 25000xi
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Powador 33000xi
Park Series

Your retailer

KACO new energy.

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