

ZGR-PCS4500 UL

BIDIRECTIONAL BATTERY CHARGER

ZGR-PCS4500 guarantees **Max Power up to 50°C throughout DC voltage range 975-1500V.**

ZGR-PCS4500 integrates advanced grid stabilization and regulation functions.

ZGR-PCS4500 is a three-phase inverter with the latest bidirectional technology. The objective of the equipment is to convert the energy of the grid into energy in batteries and return it when there is energy demand.

Thanks to its different operating modes, ZGR-PCS4500 offers grid operators and other grid agents an integral tool for a more flexible energy distribution by regulating power, voltage and frequency, guaranteeing the availability of the electrical grid; it also has Grid Forming and Black-Start functions, increasing the manageability of the energy within the installation. In addition, outdoor solutions are a perfect solution for large-scale storage projects.



Characteristics

- Operational modes:
 - Frequency control.
 - Black-Start (island mode).
 - Active energy reserve.
 - Voltage control.
 - Active / Reactive power control.
 - Grid Forming.
 - Inertia emulation
- Quick response to set point changes.
- Wide range of working temperatures, from -20°C to +60°C.
- Scalable, parallel equipment's.
- AC protections:
 - Short-circuits and overcharges.
- DC protections:
 - Short-circuits (fuse).
 - Overvoltage.
- AC and DC breaker integrated.
- Remote monitoring via Web Server.
- Communication standard: Modbus TCP/IP.
- Other communication standard on demand: SNMP, IEC 104... etc.

Applications



TECHNICAL SPECIFICATIONS

Model	ZGR-PCS4500
Power modules	6
DC INPUT	
Max power voltage range (Pmax)	975 - 1500 V
Max DC voltage, V dc max	1500 V
Max input current, Idc	4620 A
Max short circuit current, Isc	250 kA
Max N° input (Up to)	28
Overvoltage category	OVC II
AC OUTPUT	
Nominal Power with cos phi = (@ 50°C)	4500 kW
Nominal output current, Iac	3762 A
Nominal voltage	690 Vac ± 10%
THDi	<3% at nominal power
Power Factor range	0 - 1 lead / lag (configurable)
Grid frequency AC / range	60 Hz ± 5 Hz
Maximum short circuit current, Isc (Breaking capacity)	65 kA
Maximum fault current (Ipeak 5 mseg)	9750 A
Output overcurrent electronic protection (2 seg)	4512 A
Output overcurrent protection (<500 mseg)	7524 A
Overvoltage category	OVC III
EFFICIENCY	
Max	98,8% ± 0,1%
PROTECTIONS	
DC connection protection	Fuse + DC breaker
AC connection protection	AC breaker
DC surge protection	Surge arrester, type II
AC surge protection	Surge arrester, type II
Ground fault monitoring	Isolation monitoring
Degree of protection: (according to IEC 60529)	Outdoor - NEMA 3R
PHYSICAL AND ENVIRONMENTAL	
Dimensions (H x W x L)	2529 x 2014 x 4053 mm
Approx. Weight	6200 Kg
Self-consumption (stand-by)	< 250 W
Internal auxiliary power supply	Integrated transformer
Operating temperature range	-20°C - +60°C (Max power up to 50°C)
Noise emissions	<65 dB @ 10m
Max. relative humidity (without condensation)	0% to 95%
Protection class	Class I
Max. operating altitude (without derating / with derating)	2000 m / 4000 m
Air consumption	24000 m3 / h
DC connection	Connection for cable terminal for each inlet (one per pole)
AC connection	Connection for cable terminal for each inlet (one per phase)
Enclosure colour	RAL 7035
COMMUNICATIONS	
Communications	Ethernet, Modbus TCP
CERTIFICATIONS & COMPLIANCE	
Standards	UL 1745SB; UL 1998; NEC2023; UNE-EN IEC 62109-1; UNE-EN IEC 62109-2; CISPR 11/ EN 55011 + AMD1 + AMD2; EN 61000-6-2; EN IEC 62477-1; UNE 217002

*Specifications subject to change