

# ZGR PCS 3300

## BIDIRECTIONAL BATTERY CHARGER - 1500V

The **ZGR PCS 3300** optimally manages storages systems by providing the necessary grid services.

ZGR PCS is a three-phase charger with the latest control technology over the bidirectional flow of energy. The main application in the management of charging and discharging batteries using energy available on the grid.

The ZGR system facilitates the integration of renewable energy sources and allows reducing investments in the grid, improving stability, and enabling an increase in energy generation and demand. Thanks to the different modes of operation implemented (Control of Power, Voltage, Frequency, and inertia emulation), ZGR PCS offers grid operators a fundamental tool to maintain the operating conditions of the grid within appropriate quality standards.

In addition, it has a Black Start function, increasing the manageability of the energy available in the batteries.



### Applications



### Characteristics

- DC voltage range (950 - 1500Vdc)
- Harmonic distortion, THD < 3%
- Automatic operation modes:
  - Frequency control
  - Voltage control
  - Black Start (Active Power Reserve Mode)
  - Active/Reactive Power Control
- Quick response to change setpoints of control.
- Wide working temperature range between -20°C and +50°C.
- Modular.
- AC Protections:
  - Short circuit and overload
  - Over and Under voltage
- IP55 protection grade
- Installation up to 4000 m.a.s.l.
- Reduced maintenance in operation
- AC and DC disconnectors
- Remote monitoring
- DC Protections:
  - Reverse polarity
  - Short circuit
  - Surge
  - Insulation failure detection

| TECHNICAL SPECIFICATIONS                                   |  |
|--|--|
| Model  | ZGR STORAGE PCS 3300   |
| <b>INPUT [DC]</b>  |  |
| Minimum input voltage, Vdc min                             | 950 V  |
| Maximum input voltage, Voc max                             | 1500 V   |
| Maximum input current, Idc                                 | 3158 A   |
| Corriente de cortocircuito max. Isc                        | 250 kA   |
| Number of inputs   | 4  |
| DC fuses size  | Fuse NH3 315A, 350 A, 355A, 400A (Screwable)                                 |
| <b>OUTPUT [AC]</b>   |  |
| Rated power [cos phi = 1 (50°C)]                           | 3000 kW  |
| Maximum output current, Iac                                | 2510 A   |
| Rated voltage  | 690 V ± 10%  |
| THDi   | <3% at rated power   |
| Grid frequency   | 50 Hz / 60 Hz (± 5 Hz)   |
| Maximum output current, Iac                                | 50kA   |
| <b>EFFICIENCY</b>  |  |
| Max / European / Californian                               | 98,9 % / 98,7 % / 98,6%  |
| <b>PROTECTIONS</b>   |  |
| DC connection point  | DC Breaker   |
| AC connection point  | AC Breaker   |
| DC surge protection  | Surge arrester, type II  |
| AC surge protection  | Surge arrester, type II  |
| Ground fault monitoring                                    | Isolation monitoring IMD   |
| Degree of protection (according to IEC 60529)              | Outdoor - IP55   |
| <b>ENVIRONMENTAL AND MECHANICAL CHARACTERISTICS</b>        |  |
| Dimensions (Height x Width x Length)                       | 2529 x 2014 x 2850 mm  |
| Weight   | 5250 Kg  |
| Self-consumption (stand-by)                                | < 370 W  |
| Internal auxiliary power supply                            | Integrated transformer   |
| Operating temperature range                                | -20°C - +60°C (Max power up to 50°C)   |
| Noise emissions  | <65 dB @2m   |
| Max. relative humidity (without condensation)              | 0 % a 95 %   |
| Max. operating altitude (without derating / with derating) | 2000 m / 4000 m  |
| Air consumption  | 8000 m3 / h  |
| <b>EQUIPMENT</b>   |  |
| DC connection  | Connecting bar for cable terminal at each inlet                              |
| AC connection  | Three bus bars, one per phase  |
| <b>COMMUNICATIONS</b>                                      |  |
| Communications   | Ethernet, Modbus TCP   |
| <b>REGULATIONS</b>   |  |
| Certifications and Standards                               | UNE-EN IEC 62109-1; UNE-EN IEC 62109-2; EN 61000-6-2 & EN 61000-6-4; NTS 631 |