



TECHNICAL SPECIFICATION

CITADEL SERIES

LiFePO4 215 kWh – 100 kW – L – PCS

Version 1.0

1. GENERAL INFORMATION

The Citadel 215 kWh liquid-cooled energy storage system is a fully integrated commercial & industrial ESS solution that combines lithium iron phosphate (LiFePO₄) batteries with power conversion, control, safety, and thermal management systems in a single modular platform.

It integrates battery packs, BMS, PCS, EMS, fire protection, temperature control, and cloud monitoring, enabling a compact, safe, and intelligent energy storage architecture suitable for diverse grid and off-grid applications.

Model: Citadel 215 kWh – 100 kW – L – PCS

Key Features

- **Highly integrated design**

Combines battery system, BMS, PCS, EMS, fire suppression, and thermal management in one unified cabinet

- **Modular & scalable architecture**

Standardized plug-and-play design enables easy expansion and flexible deployment

- **Multi-application compatibility**

Supports grid-tied and off-grid operation with:

- PQ (active/reactive power control)
- VF (voltage-frequency control)
- VSG (virtual synchronous generator mode)
- Constant DC voltage mode

- **Grid support functions**

- Primary frequency regulation
- 100% three-phase unbalanced load handling
- Black start capability
- Anti-backflow protection
- Overload protection

- **High safety & reliability**

Multi-layer protection with an integrated fire protection system and liquid cooling temperature control for thermal stability

- **Communication & monitoring**

Supports Ethernet and wireless communication for remote monitoring and cloud-based management.

2. TECHNICAL SPECIFICATIONS

Model	Citadel 215 kWh - 100 kW - L - PCS
System	
Nominal Capacity	215kWh
Nominal Output Power	100 kW
IP Rating	IP55
Battery Cycle Time	> 6000 times (25°C)
Operating Temperature	-30°C ~ +50°C (>45°C Derating)
Cooling Mode	Liquid cooling
Fire Protection	Aerosol
Altitude	≤4000m (>2000m Derating)
Dimension(W*D*H)	1050*1300*2350 mm
Weight	≈2400 kg
AC (on grid)	
Nominal Power	100 kW
Nominal Voltage	400 V
Nominal Current	144 A
Nominal Frequency	50Hz/60Hz
Power Factor	-1 ~ 1
AC Access Method	3W/3W+N
Overload Capacity	1.1 times (long term) 1.2 times (1 min)
DC battery	
Cell Type	LFP 3.2 V/280 Ah
Battery system configuration	215 kWh/ 1P240S
Maximum charge/ discharge power	110 kW
Nominal voltage	768 V
Battery voltage range	672 V-864 V
Charging/Discharging Method	Constant power charging/ discharging (dynamically adjustable, maximum 100KW)
AC (off-grid) (optional)	
Max power of the important load	110 kW
Nominal voltage	400 V
Nominal frequency	50 Hz/60 Hz
Long-term overload capacity	110 %
On-grid and off-grid switching time	<2 s

3. CONTACT & SUPPORT

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