



TECHNICAL SPECIFICATION

CITADEL SERIES

208kWh – BAT – L

Version 1.0

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2. PRODUCT SUMMARY

The Citadel 208kWh – BAT – L is a commercial and industrial (C&I) liquid-cooled battery energy storage cabinet designed for outdoor energy storage applications. Featuring high environmental protection, long cycle life, advanced safety mechanisms, and flexible scalability, it can be integrated with a 50kW hybrid inverter to form a complete photovoltaic (PV) and battery energy storage solution for commercial and industrial projects.

Key Features

High Environmental Adaptability

- IP55-rated enclosure suitable for outdoor installation.
- Wide operating temperature range from -20°C to $+55^{\circ}\text{C}$.
- Designed to withstand demanding environmental conditions while ensuring reliable performance.

Flexible Configuration

- Supports up to 16 battery cabinets in parallel for convenient capacity expansion.
- Compatible with mainstream Power Conversion Systems (PCS).
- Suitable for both centralized and string-type energy storage system architectures.
- Modular design enables flexible system sizing to meet various project requirements.

Safe and Reliable

- Three-level active protection system provides comprehensive safety management.
- Real-time monitoring of:
 - Short circuits
 - Overcurrent conditions
 - Overvoltage events
 - Overtemperature conditions
 - Other abnormal operating states
- Optional pack-level fire suppression and cluster-level fire suppression solutions available for enhanced safety.

Long Service Life

- Optional active-balancing Battery Management System (BMS) maintains high cell consistency and improves overall battery performance.
- High-efficiency liquid cooling system reduces temperature variations between cells and extends battery service life.
- Designed for $\geq 6,000$ charge/discharge cycles under specified operating conditions.

Typical Applications

- Commercial and industrial energy storage systems
- Solar PV + Battery Energy Storage Systems (BESS)
- Peak shaving and load shifting
- Demand charge management
- Backup power applications
- Microgrids and distributed energy systems

3. TECHNICAL SPECIFICATION

Parameter	4-pack	3-pack	2-pack
Cell Nominal Capacity	314 Ah	314 Ah	314 Ah
Battery Pack Nominal Energy	52.24 kWh	52.24 kWh	52.24 kWh
System Energy	208.96 kWh	156.72 kWh	104.48 kWh
Nominal Voltage	665.6 V	499.2 V	332.8 V
Operating Voltage Range	582.4–759.2 V	436.8–569.4 V	291.2–379.6 V
Compatible Inverter Power	50–100 kW	50–75 kW	50 kW
Max Charge/Discharge Rate	0.5C		
Cycle Life	≥ 6,000 cycles (25°C, 0.5C/0.5C, 80% EOL)		
Max Parallel Units	16 (DC-side parallel, grid-tied mode)		
Dimensions (W × D × H)	1000 × 1350 × 1850 mm		
Weight	≈ 2,050 kg	≈ 1,720 kg	≈ 1,390 kg
Ingress Protection	IP55		
Cooling Method	Liquid cooling		
Fire Suppression	Aerosol-based system		
Installation Environment	Outdoor		
Operating Temp. Range	-30°C to +55°C		
Altitude	≤ 3,000 m (derating above 2,000 m)		
Certifications	UN 38.3, CE		
Compatible Inverters	Solis S6-EH3P50K-H		

Important Note: Although the battery cabinet is designed to support hybrid inverters from 50 kW to 100 kW, only 50 kW inverter configurations have completed validation and are currently available. Projects requiring other inverter sizes should be reviewed with the manufacturer's technical team.

4. CONTACT & SUPPORT

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