

Data Sheet

BC Series UPS Battery Cabinet

BC 2



Introduction

The ZincFive UPS Battery Cabinet is the world's first NiZn (Nickel-Zinc) BESS (Battery Energy Storage Solution) product with backward and forward compatibility with megawatt class UPS inverters. Unique NiZn benefits include:

- Industry-leading safety with no thermal runaway¹
- Depleted NiZn cells remain conductive, enabling reliable string operation
- High power density in a light-weight package
- Module and String level monitoring
- Over Current and Over Voltage Protection
- Easy maintenance pullout battery trays
- Seismic IBC 2021 rated, highly durable cabinet design
- Highly effective charge control across multiple inverter platforms
- UL 1778 and CAN/CSA C22.2 No. 107.3
- IEC 62040-1, IEC 62040-2
- CE and RoHs Compliance in progress

¹ ZincFive batteries were tested at the cell level to UL9540A, a Test Method for Evaluating Thermal Runaway, and ZincFive's nickel-zinc batteries did not exhibit thermal runaway in any of the five tests.

Benefits of NiZn Technology

Superior Power Density – Approximately 50% the weight of lead acid batteries. Twice the power density.

Low Total Cost of Ownership – Low battery maintenance and small footprint.

Superior Battery Cycle Life – Exceeds twice the typical industry required cycle life

Safety – No thermal runaway nor travel restrictions for NiZn batteries.



ZincFive BC Series UPS
Battery Cabinet

Specifications

Model	ZF-37A6SU022KB1-LF000	ZF-38A6SU022KB1-LF000	ZF-39A6SU022KB1-LF000
Electrical			
Nominal Voltage	481 Vdc	494 Vdc	507 Vdc
Charge Voltage Range	552 Vdc to 570 Vdc	567 Vdc to 585 Vdc	582 Vdc to 600 Vdc
Minimum and Maximum Charge Current	20 A minimum; 160 A maximum		
Standard Charging Current	80 A		
Charge Time	Ranges from 2 hours to 5 hours for 0-100% SOC, dependent on charge current		
Low Voltage Cutoff	370 Vdc	380 Vdc	390 Vdc
Nominal Capacity C/2 at 25°C	>80 Ah		
Nominal Energy Storage at C/2	37 kWh	38 kWh	39 kWh
Battery Chemistry	NiZn with starved, KOH aqueous electrolyte (Alkaline, no acid)		
Maximum Discharge Current	800 A		
Single String Battery Configuration	37 Battery modules in a single string per cabinet (37S1P)	38 Battery modules in a single string per cabinet (38S1P)	39 Battery modules in a single string per cabinet (39S1P)
System BMS Functions			
Monitoring	BMS manages charge/discharge functions and monitors full suite of parameters including battery voltage, temperature and current.		
Data Communications	Ethernet, Modbus TCP/RTU, USB, Local Server, and Cloud options		
Safety and Environmental			
Safety	Batteries exhibit no thermal runaway as per UL 9540A		
Breaker Protection	Circuit breaker is accessible with door closed and (manual or upon fault) disconnects batteries from inverter and isolates battery string in two parts		
Operating Temperature Range ¹	20°C to 35°C		
Storage Temperature Range	-20°C to 50°C		
Storage Period	6 months at 25°C before batteries need charge		
Humidity Range	0-90%, Non-Condensing		
Cooling	Forced Ventilation Standard		
Transport	No Transportation Restrictions		
Certifications			
Cabinet	UL1778, CE, RoHS, CSA		
Battery	UL 1989; CAN/CSA-C22.2 No. 60896-21:17 EU Batteries Directive (2006/66/EC)		
Seismic	IBC 2021		
Mechanical			
Height	82.5 inches for Cabinet / 83.5 inches with High Voltage Box		
Width	21" (533mm)		
Depth	36" (914mm)		
Total Weight	2,065 lbs. (936.67 kg)	2100 lbs. (952.54 kg)	2135 lbs. (968.42 kg)

¹consult with ZincFive for use outside this temperature range

* All Specifications Valid at Operating Temperature Range *All Specifications Subject to Change