XGW Tech

48V 200Ah Sodium-ion Battery Pack

1. Product Overview

This product is a high-performance Sodium-ion (Na-ion) battery pack designed for UPS systems, energy storage systems (ESS), telecom backup, and industrial power applications.

Compared with traditional lithium-ion systems, Na-ion technology provides enhanced safety, wider temperature tolerance, and improved cost stability.

2. Electrical Specifications

Battery Type: Sodium-ion Battery (Na-ion)

Cell Configuration: 16S Na-ion cells (typical design)



Nominal Voltage: 48V

Operating Voltage Range: 40.0V – 54.4V

Nominal Capacity: 200Ah

Nominal Energy: 9.6 kWh

3. Charge & Discharge Parameters

Charge Method: CC / CV (Constant Current / Constant Voltage)

Recommended Charge Voltage: 53.6V – 54.4V (typical 54.0V)

Cut-off Discharge Voltage: 40.0V

Continuous Charge Current: 100A (0.5C)

Maximum Charge Current: 200A (1C)

Continuous Discharge Current: 100A (0.5C)

Maximum Continuous Discharge Current: 200A (1C)

Peak Discharge Current (short duration): 220A (optional customization)

3.Thermal Management & Operating Conditions

Charge over-temperature protection	60 °C
Charge over-temperature recovery	50 °C
Discharge over-temperature protection	65 °C
Discharge over-temperature recovery	55 °C
Operation temperature range	Charge: 0°C ~ 45°C Discharge: -20°C ~ 60°C
Storage temperature	≤12 months: 0 ~ 35°C ≤3 months: -10 ~ 45°C ≤**7** days: -20 ~ 45°C
Battery bo**x** dimension (W×D×H)	661 × 440× 220 mm (±2 mm)
System weight	118 kg ± 2.0 kg
Protection	IP20
Rack mounting	Standard 19-inch telecom rack
Cooling mode	Natural cooling (forced optional)
Ventilation openings	Front / rear / side
Relative humidity	5% ~ 95% non-condensing
Ma**x** working altitude	≤ 3000 m

4. Performance Characteristics

Cycle Life: ⩾ 4000 cycles @ 80% Depth of Discharge (DOD)

Efficiency: ⩾ 90% (system level, depending on inverter/BMS)

Self-discharge Rate: < 3% per month

5. Battery Management System (BMS)

Integrated intelligent BMS with multi-level protection:

- Overcharge protection
- Over-discharge protection
- Overcurrent protection
- Short circuit protection
- Over-temperature protection
- Under-temperature protection
- Cell balancing function (active/passive optional)
- SOC / SOH estimation

6. Communication Interface

- RS485 (Modbus protocol)
- CAN Bus (optional)
- Optional: Bluetooth / Dry contact / LCD display

7. Application Fields

- UPS (Uninterruptible Power Supply)
- Telecom base stations
- Solar energy storage systems
- Industrial backup power
- Microgrid systems
- Commercial & residential ESS

8. Key Advantages

- High safety sodium-ion chemistry
- Wide operating temperature range (-20°C to 60°C)
- High discharge capability up to 1C
- Long cycle life (⩾4000 cycles @80% DOD)
- Strong UPS compatibility
- Cost-stable alternative to lithium systems

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9. Notes

Specifications are subject to change without prior notice due to product improvement.
Final parameters may vary depending on customer customization, application scenario, and BMS configuration.