

BAK 13S 48V 150Ah 13S30P 3C Lithium-Ion Rechargeable Battery Pack

SKU / Model: Not specified

PRODUCT OVERVIEW

Specification Details Battery Chemistry Lithium-Ion / Li-ion Cell Brand BAK Cell Format 21700 Cell Capacity 5000mAh / 5Ah Configuration 13S30P Total Cells 390 Cells Nominal Voltage 46.8V System Voltage Class 48V Battery Capacity 150Ah Nominal Energy Approximately 7.02kWh Maximum Charge Voltage 54.6V Cell Nominal Voltage 3.6V Cell Maximum Voltage 4.2V Discharge Rating Up to 3C, subject to cell/BMS configuration BMS 13S Li-ion BMS Charging Method CC/CV Recommended Charger 54.6V Li-ion Charger Dimension/weight 158*665*145mm / 27.3kg Cell Arrangement 13 Series x30 Parallel

TECHNICAL SPECIFICATIONS

Nominal Voltage: 48V
Capacity: 150Ah
Energy: 7.02kWh
Chemistry: Lithium-Ion
Maximum / BMS Current: 450A
Charging Voltage: 54.6V
Product Category: 13 Cell 48V Li-Ion Battery Pack (46.8V~54.6V)

PRODUCT DESCRIPTION

BAK 13S 48V 150Ah 13S30P 3C Lithium-Ion Rechargeable Battery Pack The BAK 13S 48V 150Ah 13S30P 3C Lithium-Ion Rechargeable Battery Pack is a high-capacity battery solution designed for electric vehicles, solar energy storage, industrial equipment, electric utility vehicles, backup power systems, and custom energy-storage applications. Using BAK 21700 lithium-ion cells, this battery pack is configured as 13S30P, containing 390 cells. It provides approximately 46.8V nominal voltage, commonly referred to as a 48V-class battery, with 150Ah capacity and approximately 7.02kWh nominal energy. 13S30P Battery Configuration The 13S30P configuration consists of 390 individual cells: 13 cell groups connected in series 30 cells connected in parallel per group $13 \times 30 = 390$ cells $30 \times 5Ah = 150Ah$ $13 \times 3.6V = 46.8V$ nominal $13 \times 4.2V = 54.6V$ maximum charge voltage $46.8V \times 150Ah = 7,020Wh$ / 7.02kWh This configuration provides a high-capacity 48V-class lithium-ion battery for applications requiring substantial stored energy. High-Capacity 150Ah Battery With 150Ah capacity, this battery pack offers significantly more energy than standard 48V battery packs with lower capacities. The approximately 7.02kWh nominal energy can provide extended operating time depending on the connected load and application. Actual runtime will depend on factors such as motor/controller efficiency, connected load, operating conditions, temperature, battery age and discharge rate. BAK 21700 Lithium-Ion Cell Technology The battery uses BAK 21700 lithium-ion cells assembled in a 13S30P configuration. The 30 cells connected in parallel in each series group provide the required 150Ah capacity and help

LION BATTERY

PRODUCT DATASHEET

distribute current across multiple cells. 3C Discharge Rating Based on a 150Ah pack capacity, a theoretical 3C current is: $150\text{Ah} \times 3\text{C} = 450\text{A}$ However, the complete battery pack should not automatically be considered a 450A continuous battery. The actual continuous and peak current capability depends on the specific cell model, BMS, busbars/nickel connections, wiring, connectors, thermal management and pack construction. The BMS and battery design should therefore be selected according to the actual application's current requirements. BMS Protection A compatible 13S Li-ion BMS can provide important protection and monitoring functions, including: Overcharge protection Over-discharge protection Over-current protection Short-circuit protection Cell voltage monitoring Cell balancing Temperature monitoring, where supported Battery fault protection For a 150Ah high-capacity battery, appropriately rated BMS, wiring, connectors and current-carrying interconnects are essential. 54.6V Charging Voltage Because this battery uses a 13S lithium-ion configuration, it requires a maximum charging voltage of 54.6V. Nominal Voltage: 46.8V Maximum Charge Voltage: 54.6V Use a compatible 54.6V lithium-ion CC/CV charger. Using an incorrect charger or charging voltage can damage the battery and create a safety hazard. Suitable Applications The BAK 13S 150Ah battery pack can be used for: 48V Electric Vehicles Electric Utility Vehicles Electric Carts Solar Energy Storage Backup Power Systems Industrial Equipment Robotics Telecommunication Backup Portable Power Systems Custom EV Projects High-Capacity Energy Storage Custom Battery Pack Options LionBattery can customize battery packs according to specific application requirements, including: Battery voltage Battery capacity Cell configuration BMS current rating Smart BMS CAN / RS485 communication Charging connector Discharge connector Cable size and length Battery enclosure Mounting arrangement Custom battery dimensions Thermal management Protection and monitoring features The 13S40P 200Ah version provides approximately 33% more capacity and energy than the 13S30P 150Ah version, assuming the same cell type. Why Choose the BAK 48V 150Ah Battery Pack? 150Ah high capacity Approximately 7.02kWh nominal energy 48V-class lithium-ion system 13S30P configuration 390-cell configuration BAK 21700 cells Rechargeable lithium-ion technology Suitable for EV and energy-storage applications Custom BMS options available Custom enclosure and wiring options Suitable for industrial and commercial applications