BOGANT

52V 30AH METAL CASE LITHIUM ION BATTERY SYSTEM

TECHNICAL SPECIFICATION

Product Model: BA-5230M

Enclosure Material: Premium Heavy-Duty Metal Case

Configuration: 14S 6P / Samsung 21700 -50G Cells

BMS Architecture: Programmable Bluetooth Smart BMS

Target Application: High-Performance E-Mobility Systems

1. PRODUCT OVERVIEW & ENCLOSURE ENGINEERING

The BOOANT 52V 30Ah Lithium-ion battery system represents an engineered milestone for high-demand e-mobility and custom electric vehicle setups. Built specifically for enthusiasts and commercial operators demanding reliable sustained power, this system transitions away from conventional film coverings to feature an industrial-grade impact-resistant metal enclosure.

HEAVY-DUTY ENGINEERING HIGHLIGHTS

- **Premium Precision Metal Shell:** Full metal structural reinforcement guarantees superior mechanical protection against severe punctures, drops, and physical impacts common in aggressive off-road riding or intense daily operations.
- **Thermal Optimization Strategy:** The robust metallic case functions as a highly efficient heat dissipation medium, channeling excess thermal energy outward away from inner core cells to stabilize general operating temperatures during continuous peak loads.
- **Heavy-Gauge High-Temp Cabling:** Wired explicitly with premium 10AWG high-temperature flexible silicone cables to maximize current efficiency, eliminate localized wiring resistance, and prevent thermal bottlenecks at the termination points.

2. ADVANCED SMART BMS ARCHITECTURE

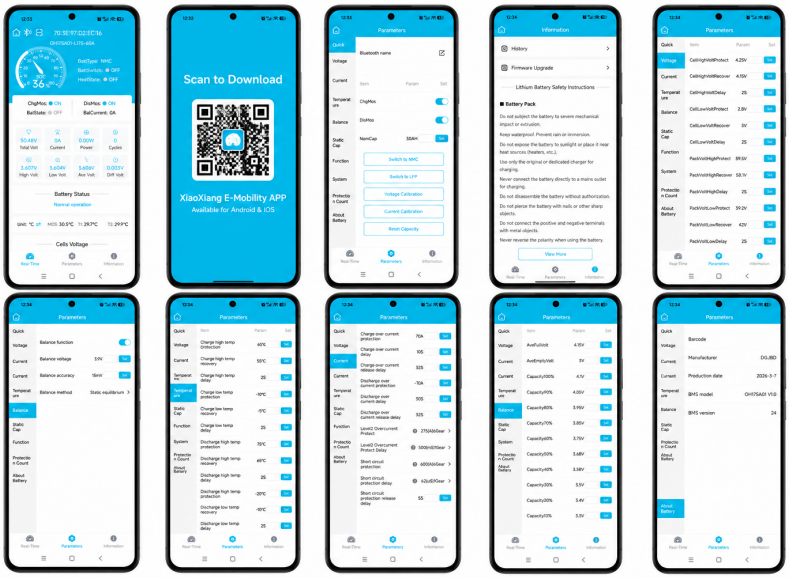
At the heart of the 52V 30AH Battery system is an integrated JBD-powered Bluetooth Smart Battery Management System (BMS). Unlike standard passive defense boards, this intelligent management hardware continuously monitors individual cell groups, applies software-driven parameter corrections, and executes high-speed micro-second isolation routines to safeguard your pack.

COMPREHENSIVE PROTECTION PROTOCOLS

- **Intelligent Dynamic Balancing:** Automatically triggers balancing software routines to equalize voltage differentials across all 14 series cell groups, drastically optimizing overall long-term capacity retention and cycle lifespan.
- **Dual-Tier Overcurrent Defense:** Multi-layered continuous hardware monitoring and secondary programmable digital firmware trip thresholds accurately shield the internal architecture from catastrophic short-circuits and sudden external overloads.
- **Adaptive Thermal Safeguards:** Dual embedded thermal probe arrays keep tabs on core internal cell banks and power MOSFET temperatures independently, automatically limiting power execution or safely opening circuits if environmental thresholds are violated.

3. XIAOXIANG E-MOBILITY REAL-TIME TELEMETRY

The integrated Bluetooth hardware interfaces directly with the official XiaoXiang E-Mobility application, providing operators with absolute control and transparent monitoring capabilities. Every vital metric from overall status to specific individual cell voltages is displayed clearly on your screen.



Scan to Download
XiaoXiang E-Mobility APP
Compatible with Android & iOS systems

APP FUNCTIONALITY & TELEMETRY OVERVIEW

- **Live Diagnostic Dashboard:** Instantly track precise state of charge (SOC percentage), overall total pack voltage, live charging/discharging current metrics, and accurate real-time wattage outputs.
- **Individual Cell Group Analytics:** Visualizes detailed voltages for all series groups down to the millivolt, allowing instant verification of internal balance without needing specialized external diagnostic tools.
- **Custom Parameter Customization:** Advanced authorization allows engineering teams to safely tweak specific over-voltage recovery values, custom discharge cutoff points, and precise temperature thresholds to suit specialized custom motor demands.

4. HIGH-EFFICIENCY INDUSTRIAL SMART CHARGER

To complement the V7 power grid, each pack is paired with an industrial-grade, forced-air cooled smart battery charging system. Utilizing an optimized multi-stage charging curve, the system guarantees efficient replenishment while minimizing active stress on the chemistry core.

INTERNAL ARCHITECTURE

Heavy-duty internal transformers, premium Japanese-manufactured capacitors, and a dedicated active cooling fan ensure steady thermal profiles under intense power delivery.

EXTERIOR DESIGN

A rugged, compact aluminum extruded chassis protects internal components, featuring a secure XT60 high-current output interface for durable connectivity.

ADVANCED SMART CHARGING FEATURES

- **Precision CC/CV Charging Curve:** Implements strict Constant Current (CC) fast-charge progression before seamlessly transitioning into Constant Voltage (CV) absorption to guarantee a safe, full, 100% genuine saturation.
- **Integrated Protection Electronics:** Independent integrated circuitry prevents reverse-polarity hazards, blocks over-voltage feedback loops, and includes an auto-cutoff switch that terminates charging current once the battery system achieves capacity.

5. TECHNICAL SPECIFICATIONS MATRIX

The detailed technical electrical and mechanical design specifications for the BOOANT V7 Flagship 52V 30Ah system are detailed below:

ELECTRICAL PARAMETER	DESIGN VALUE / SPECIFICATION TARGET
Nominal System Voltage	52.0V
Rated Battery Capacity	30.0Ah (30,000mAh)
Total Stored Energy	1560Wh (1.56 kWh)
Internal Cell Selection	Premium Samsung 21700 50G High-Capacity Grade Cells
Internal Configuration Matrix	14 Series x 6 Parallel (14S6P Layout)
Continuous Discharge Rating	60 Amps Max Sustained Current Output
Peak Discharge Rating	180 Amps Transient Peak Output (< 1 Second)
Recommended Charging Current	5.0 Amps Standard Smart Charge
Maximum Allowed Charging Current	10.0 Amps Fast Charge Threshold
Charging Cut-Off Voltage Point	58.8V ± 0.1V Complete Saturation
Discharge End Cut-Off Voltage Point	42V Lower Safety Boundary Limit
Main Output Connection Method	Heavy-Gauge 10AWG Wires with Authentic XT90/XT60 Connectors
Structural Enclosure Design	Heavy-Duty Sealed Protective Metal Case
Operating Thermal Charge Window	0°C to 45°C (32°F to 113°F)
Operating Thermal Discharge Window	-20°C to 60°C (-4°F to 140°F)
Battery Dimensions	200×165×145mm(7.87×6.5×5.71in)
Weight	Approx. 8.5Kg(18.74lbs)

POWERING THE FUTURE OF E-MOBILITY

BOOANT Premium Battery Systems

Industrial Grade Power & Customized Lithium Solutions

Official Storefront: **www.booant.com**

Customer Experience & Engineering Group: **support@booant.com**