



POWERED BY GENUINE SAMSUNG CELLS

# BOOANT 52V 50AH E-BIKE LITHIUM BATTERY

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Heavy-Duty Premium Metal Case Edition engineered with genuine Samsung 21700 - 50G cells and Bluetooth Smart BMS integration for absolute power, monitoring, and structural integrity.

## 01 / PRODUCT ARCHITECTURE

The BOOANT 52V 50Ah premium e-bike battery is built specifically for ultra-high endurance electric bicycles and high-power motorcycle conversion markets. Enclosed in a rugged technical metal case, it combines unprecedented capacity with architectural safety.



### HEAVY-DUTY TECHNICAL METAL ENCLOSURE

Unlike conventional PVC wraps, this flagship model features a rigid metal case providing superior puncture protection, efficient heat dissipation, and weather resistance under harsh riding conditions.

## 02 / TECHNICAL CORE SPECIFICATIONS

Comprehensive technical parameters for cell layout, electrical capacity, configuration metrics, physical dimensions, and heavy-duty weights.

### ELECTRICAL & CELL PARAMETERS

Nominal Voltage	52V
Rated Capacity	<b>50Ah</b>
Total Energy Storage	2600Wh (2.6kWh)
Cell Composition Type	Lithium-Ion (NMC)
Premium Cell Selection	Genuine SAMSUNG INR21700-50G Cell Architecture

### PHYSICAL DIMENSIONS & STRUCTURAL METRICS

Enclosure Material	Heavy-Duty Industrial Metal Enclosure (Black Accent Finish)
Physical Dimensions (Metric & Imperial)	<b>10.83" x 7.09" x 6.69" (275mm x 180mm x 170mm)</b>
Total Net Weight (Metric & Imperial)	<b>Approx. 29.76 lbs (13.5 kg)</b>
Discharge Cable Gauge	Heavy-duty 10AWG Pure Copper Discharge Wires
Discharge Plug Type	Standard Premium XT90 Female (Custom configurations available upon request)

#### UNIFIED MEASUREMENT STANDARD NOTE

In compliance with international and North American distribution guidelines, dimensions and weights are provided combined in inches and lbs to guarantee precise fitment inside electric conversion frames.

## 03 / SMART BMS & MOBILE APP ECOSYSTEM

Equipped with an advanced programmable Bluetooth Battery Management System (BMS) powered by the XiaoXiang E-Mobility ecosystem for comprehensive multi-layered cellular control.

### REAL-TIME APP INTERFACE

The integrated Bluetooth Smart BMS transmits live telemetry data directly to your smartphone. Riders can monitor detailed analytics including individual cell series balance status, temperature trends, and cycle depth.

- **Live Telemetry:** Accurate tracking of State of Charge (SOC), total package voltage, current drain, and power output.
- **Cell Balance Monitoring:** Real-time voltage breakdown across individual series groups to maintain optimal pack health.
- **Programmable Safeguards:** Micro-adjust temperature limits, overcurrent protection delays, and low voltage cutoff floor.

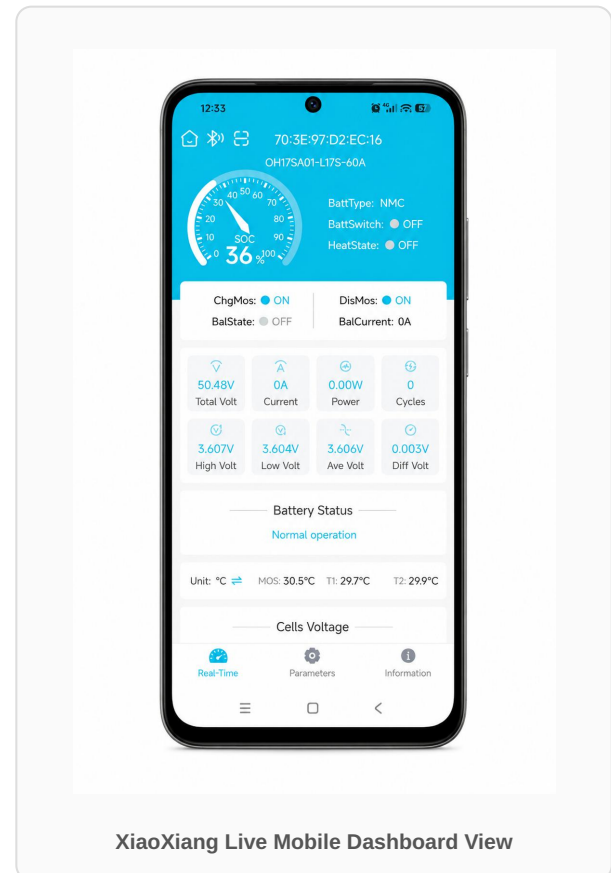
SCAN TO DOWNLOAD XIAOXIANG APP

Scan to Download



XiaoXiang E-Mobility APP  
Available for Android & iOS

Compatible with Android & iOS Devices



XiaoXiang Live Mobile Dashboard View

# 04 / ADVANCED BMS PARAMETER MATRIX

Full technical specification breakdown of the factory programmed and user customizable safety parameters within the smart BMS hardware interface.



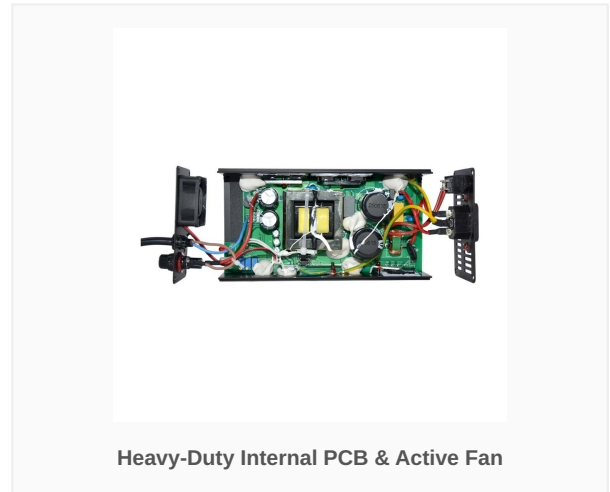
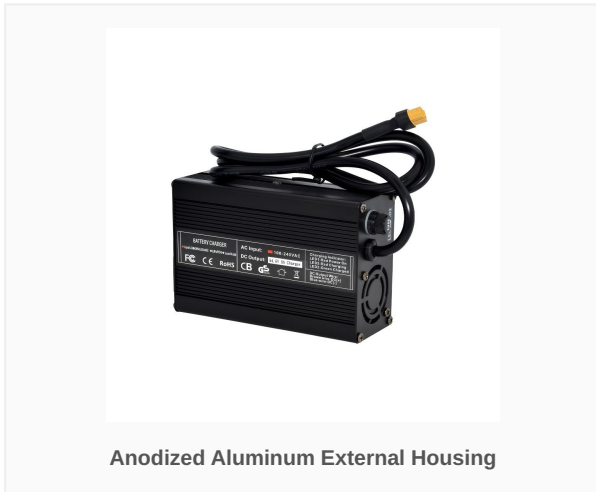
Complete Multi-Screen Calibration, Temperature Control & Balance Management Suite

## BMS PROTECTION THRESHOLDS & SETTINGS

<b>Over-Voltage Protection (Cell)</b>	4.25V ± 0.05V (Delay: 2S)
<b>Under-Voltage Protection (Cell)</b>	2.80V ± 0.10V (Delay: 2S)
<b>Over-Voltage Protection (Pack)</b>	59.5V (Recovery: 58.1V)
<b>Under-Voltage Protection (Pack)</b>	39.2V (Recovery: 42.0V)
<b>Over-Current Discharge Protection</b>	<b>60A Continuous (Peak Trip: 180A for 500ms)</b>
<b>Short Circuit Protection Delay</b>	62 microseconds (Automatic Release Delay: 5S)
<b>High Temperature Charge Protection</b>	65°C / 149°F Max Safety Cutoff
<b>High Temperature Discharge Protection</b>	75°C / 167°F Max Safety Cutoff
<b>Low Temperature Charge Protection</b>	-10°C / 14°F Safety Lockout
<b>Cell Balancing Activation Voltage</b>	Static Equalization at 3.90V (Accuracy: 15mV)

## 05 / PROFESSIONAL CHARGING SYSTEM

Every BOOANT 52V 50Ah battery pack is bundled with an industrial-grade high-current smart battery charger, utilizing an advanced dual-stage thermal management architecture.



### SMART CHARGER TECHNICAL PARAMETERS

AC Input Voltage Range	100–240VAC (Global Wide-Voltage Adaptability, 50/60Hz)
DC Output Voltage Max	<b>54.6V DC (Optimized for 52V NMC Packs)</b>
Max Charging Current Rate	5A Continuous Smart CC/CV Profile
Charging Indicator LED Logic	LED1: Red (Power On)   LED2: Red (Charging)   LED2: Green (Fully Charged)
Internal Cooling Architecture	Integrated Automated Forced-Air Cooling Fan with Dual Heat Sinks
Certified Safety Compliances	FC, CE, RoHS, CB, GS, and WEEE standards compliant

**SAFETY INSTRUCTIONS & OPERATIONAL GUIDELINES**

Keep waterproof and avoid direct rain or immersion. Do not expose the charger to direct sunlight or place near heat sources. Never reverse output polarity. Only use the original dedicated charger provided.



# THANK YOU

**FOR CHOOSING BOOANT POWER AS YOUR ENERGY PARTNER**

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We are dedicated to providing the global e-bike, electric motorcycle, and custom energy conversion markets with high-performance, precision-engineered power solutions.

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BOOANT Lithium Battery Technology Co., Ltd.  
Official Store: [www.booant.com](http://www.booant.com)  
Enterprise Mail: [support@booant.com](mailto:support@booant.com)

Available via Shopify & Zoho Integrated Service Hub.  
Custom Battery Configuration Forms Available Online.  
Designed for EU, US, and Canadian Markets.