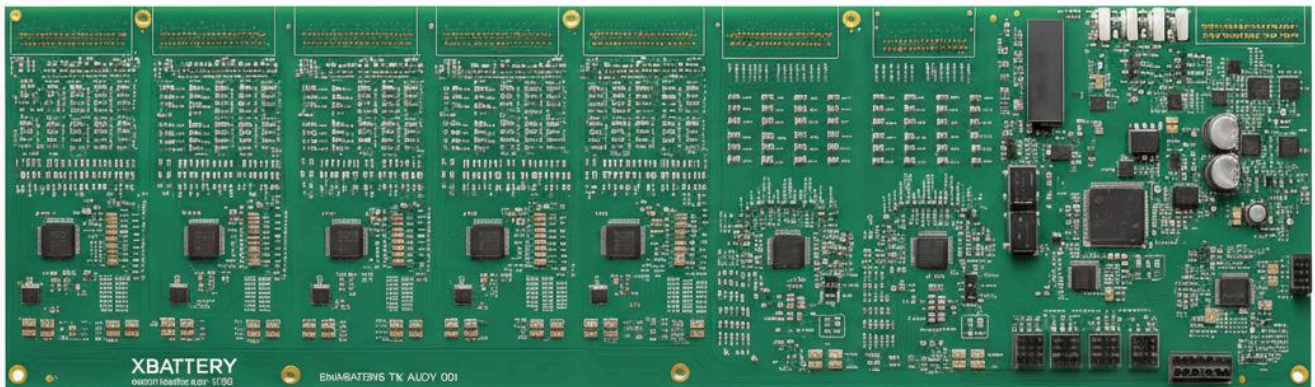


XBATTERY

BharatBMS for EVs



Made in India



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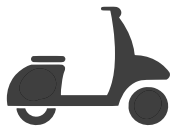
 Website

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Xbattery BharatBMS EV

Xbattery BharatBMS EV is a high-performance BMS designed for electric vehicles. Supporting up to 250 Series LFP cells, it ensures accurate monitoring, intelligent balancing, and advanced protection. With CAN FD, RS-485, and compliance with ISO 26262, ASIL-C, AIS-038 and AIS-004(part 3) standards, it delivers automotive-grade safety, reliability, and performance for modern electric mobility.

Applications



EV 2 Wheeler

Compact power for everyday mobility.



EV 3 Wheeler

Optimized range for urban drive.



EV Car

Efficient power for smart mobility.



EV Bus

Safe, scalable fleet performance.



EV Truck

Reliable energy for heavy transport.

Core Features



Cell chemistry

Compatible with LFP chemistry



High-Voltage Ready

Supports up to 250S and up to 800V.



Strong Current Handling

Delivers >1C continuous and >2C peak discharge for high-performance EV powertrains.



Accurate Monitoring

$\pm 2\text{mV}$ voltage precision ensures consistent cell health and optimized pack performance.



Smart Balancing

Passive and configurable active balancing up to 300mA keeps every cell perfectly aligned.



Thermal Protection

Tracks up to 72 temperature sensors for safe operation across all climates.



Comprehensive Safety

Built-in protection against over-voltage, under-voltage, over-current, short-circuit, and ground faults.



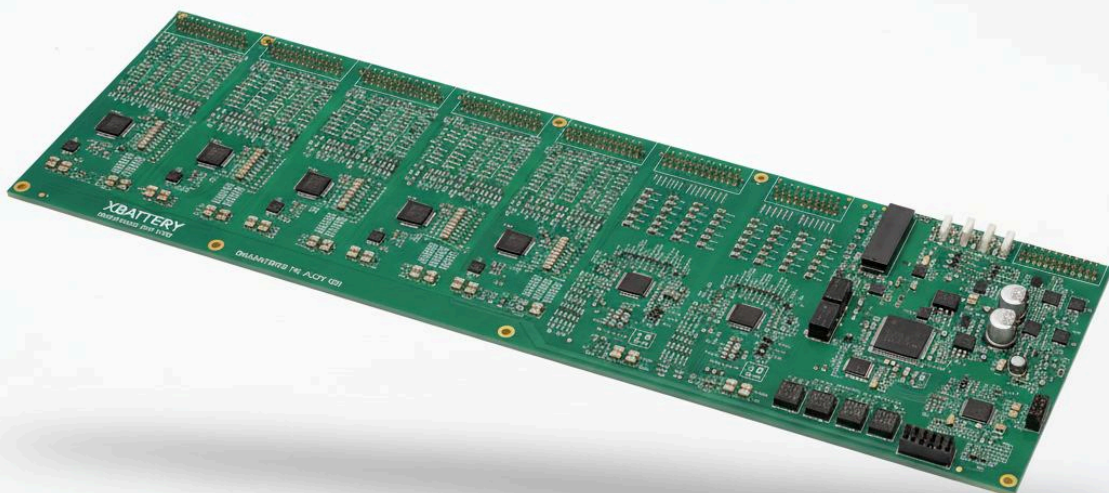
Smart Software Suite

PC GUI and Android App for live monitoring, easy configuration, and firmware upgrades



Advanced Communication

CAN 2.0B, CAN FD, RS-485, ETPL, UART, and optional Ethernet for seamless integration and real-time diagnostics.



EV BMS Offerings

01

Xbattery BharatBMS-EV-51.2V

Optimized for 2 wheelers, E-rickshaws. Supports up to 16S configurations, ensuring efficient, safe, and reliable performance for 2/3-wheel electric vehicles.

02

Xbattery BharatBMS-EV-110V

Designed for 3 wheelers, Auto, Tempo. Supports up to 36S, delivering advanced power management and enhanced safety for smooth EV operation.

03

Xbattery BharatBMS-EV-400V

Built for SUVs and light commercial vehicles. Supports up to 125S, providing high-performance control, protection, and durability for demanding applications.

03

Xbattery BharatBMS-EV-800V

Built for Bus, Truck and heavy commercial vehicles. Supports up to 250S, providing high-performance control, protection, and durability for demanding applications.

Product Specifications

Specification	EV 51.2V	EV 110V	EV 400V	EV 800V
Cell Configuration	Up to 16S	Up to 36S	Up to 125S	Up to 250S
Nominal Pack Voltage Range	51.2V	115.2V	400.0V	800.0V
Max Pack Voltage Range	58.4V	131.4V	456.3V	912.5V
Min Pack Voltage Range	40.0V	90.0V	312.5V	625.0V
Battery Capacity Range	5kWh	25kWh	80kWh	276kWh
Vehicle Applications	2 Wheeler, E-Rickshaw	Auto, Tempo	Passenger Cars, Semi Truck	Bus, Truck, Heavy Vehicles

Technical Specifications

Current Handling		Parameters	Protections & Safety		Parameters
Continuous Charge Current Limit		1C (eg. 280A for 280Ah pack)	Over-voltage Protection (per cell and pack)		Yes
Peak Charge & Discharge Currents (duration and recovery conditions)		Discharge Currents >1C Continuous, >2C (330Ah, 560Ah, ~600Ah) for up to 30s	Under-voltage Protection (per cell and pack)		Yes
Protections & Safety		Auto-recover when within safe limits	Over & Under-temperature cut-offs		Yes
<hr/>			Over-current & Short-circuit protection		Yes
Cell Voltage & Balancing			Leakage/Ground fault detection		Yes
Cell Voltage Measurement Range		-0.3V to 5V	Protection switching topology		Yes
Measurement Accuracy & Resolution		±2mV Accuracy, 1mV Resolution	Precharge circuit or inrush current limiting		Yes
Balancing Topology		Passive	<hr/>		
Balancing Current		Up to 300mA	Communication Interfaces		
Balance Enable/Threshold Voltages		Enable >3.40V, ΔV >15mV; stop <5mV	Supported Protocols		Proprietary BMS CAN DBC, ISO-14229
<hr/>			Baud Rates & CAN Speeds		125 kbps, 250 kbps, 500 kbps, 1 Mbps; CAN FD up to 2 Mbps
Temperature Sensing & Thermal Management			General-purpose I/O		2× Input/Output
Number & Type of Temperature Sensors Supported		Up to 72 × NTC (10kΩ typical)	Host Interfaces		CAN-to-PC GUI, UART_PC_logging
Sensor Range & Accuracy		-20°C to +125°C, ±1°C typical	<hr/>		
Thermal Protection Thresholds and cut-offs		Charge: 0-55°C; Discharge: -20°C to 60°C; Emergency shutdown ≤80°C	Mechanical & Environmental		
<hr/>			Dimensions & Weight		BMS without case(<200gm),
Software, Diagnostics & Tools			Mounting Form Factor / Connector Types		Würth Electronics connectors
Configuration Software Tools		PC GUI (Windows/Linux)	Operating & Storage Temperature Range		-20°C to +85°C
Event / Error Logging		Up to 30 days log retention	Humidity/Environmental Classifications (Indoor/Outdoor, Shock & Vibration specs)		5-95% RH Non-Condensing, Vibration/ Shock
Firmware upgrade		Via CAN (UDS or proprietary BL protocol)	Ingress/IP rating (If enclosure provided)		IP20-IP65 configurable
<hr/>			Standards & Certifications		
Performance & Lifecycle			Safety Standards		ISO 26262 ASIL-C
Efficiency		Up to 98%	EMS/EMC compliance, regulatory notes		AIS-038, AIS-004(part 3)
Power Consumption (Active / Idle / Sleep current)		Active: <5W, Idle: <500mW, Sleep: <200µA	<hr/>		



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