

BMS 13S 50A 48V Balanced 18650 Li-ion Lithium Battery Charger Protection Board

The **BMS 13S 50A 48V Balanced Li-ion Battery Protection Board** is a high-performance module designed to **safely manage and protect 18650 lithium-ion battery packs**. Engineered for professional and DIY applications, this BMS (Battery Management System) ensures optimal performance, long life, and complete safety for lithium-ion cells in series, providing **balanced charging and robust protection** against overcharge, over-discharge, overcurrent, and short-circuit conditions.

This 13S (13-cell series) BMS is ideal for **electric vehicles, e-bikes, solar energy storage systems, robotics, and DIY battery packs**, offering peace of mind for users who require safe, reliable, and efficient battery management.

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BMS 13S 50A 48V Balanced 18650 Li-ion Lithium Battery Charger Protection Board[/caption]

High-Performance Balanced Charging

The **BMS 13S 50A 48V module** features **balanced charging technology**, which ensures that all 13 cells in the series are charged evenly. Balancing prevents individual cells from overcharging or undercharging, **extending the lifespan of your battery pack** and maintaining consistent performance.

Key benefits of balanced charging include:

- Preventing cell voltage divergence
- Improving energy efficiency
- Increasing overall battery longevity
- Reducing the risk of thermal runaway

With a **rated current of 50A**, this BMS can handle high load applications while protecting the battery from potential damage during discharge or charge cycles.

Comprehensive Battery Protection

Safety is the core of this BMS module. It provides **full protection features** for lithium-ion 18650 batteries, including:

- **Overcharge Protection:** Stops charging when cell voltage exceeds safe limits
- **Over-Discharge Protection:** Prevents cells from deep discharge to avoid permanent damage
- **Overcurrent Protection:** Safeguards the battery against excessive current during charging or load conditions
- **Short-Circuit Protection:** Immediately cuts off output if a short circuit is detected
- **Temperature Monitoring (optional):** Ensures battery pack does not overheat during operation

These features make the 13S 50A BMS suitable for both **high-power and long-term applications**, giving users confidence in the safety and stability of their battery systems.

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BMS 13S 50A

48V Balanced 18650 Li-ion Lithium Battery Charger Protection Board[/caption]

Easy Integration

Designed for **DIY battery packs and professional setups**, the 13S BMS 50A is easy to integrate into your 18650 Li-ion pack:

- **Series Configuration:** Supports up to 13 cells in series (48V nominal voltage)
- **Standard Connections:** Clearly labeled B+, B-, P+ (power output), and P- terminals for straightforward wiring

- **Compact PCB Design:** Efficient layout for space-constrained battery packs
- **Compatibility:** Works with 18650 Li-ion cells and most lithium-based batteries

Its simple integration process allows engineers and hobbyists to **assemble, monitor, and maintain their battery packs** without complex circuitry.

Wide Range of Applications

The **BMS 13S 50A 48V Balanced Li-ion Protection Board** is suitable for many high-demand and professional applications:

- **Electric Vehicles:** E-bikes, scooters, and electric motorcycles
- **Energy Storage Systems:** Solar battery banks, UPS, and renewable energy applications
- **Portable Power Packs:** High-capacity battery systems for tools or electronics
- **Robotics:** Power supply management for industrial and hobby robots
- **DIY Projects:** Custom battery packs for experimentation and personal use

Its versatility makes it a **critical component for anyone building or maintaining 48V Li-ion battery systems**.

Benefits

- **High Current Handling:** Supports up to 50A continuous current
- **Balanced Charging:** Extends battery life and ensures uniform cell voltage
- **Comprehensive Safety:** Overcharge, over-discharge, overcurrent, and short-circuit protection
- **Durable Construction:** Reliable PCB and high-quality components
- **Wide Compatibility:** Works with standard 18650 Li-ion cells and similar batteries

Conclusion

The **BMS 13S 50A 48V Balanced 18650 Li-ion Lithium Battery Charger Protection Board** is an essential component for anyone building, maintaining, or upgrading **high-capacity lithium-ion battery packs**. Its **balanced charging capability, robust protection features, and high current handling** ensure safety, efficiency, and long-term performance of your 48V 18650 battery system.

Whether for electric vehicles, renewable energy storage, robotics, or custom DIY battery packs, this BMS module delivers **reliability, stability, and peace of mind** for every project. Investing in

this high-quality BMS ensures that your lithium-ion battery packs are **safe, durable, and optimized for peak performance.**