M SERIES

Lithium Battery Module

M48-105 / M48-150 48VDC 105Ah / 51.52VDC 150Ah





TBB's M Series lithium iron phosphate battery delivers a high continuous discharge current, making it one of the most capable solutions on the market for powering heavy-duty onboard appliances such as air conditioners, coffee makers, and microwave ovens.

Despite its high discharge capability, the battery maintains a lightweight and compact design. It also supports parallel connection of up to 8 units, offering exceptional versatility for a wide range of applications and flexible installation options.

Equipped with a built-in BMS, the M Series battery provides comprehensive protection against overcharging, over-discharging, and over-temperature conditions by monitoring the current and voltage of each cell. This ensures enhanced safety and extends the battery's service life.

The integrated heating element automatically warms the battery cells when external charging is detected, enabling reliable charging even in extremely low ambient temperatures.

An elegantly designed monitor displays key battery information such as voltage, current, and SoC. It allows users to remotely disconnect the battery power if needed. In addition, the monitor supports mobile APP control via built-in Bluetooth connectivity, offering convenient access to battery status and functions.

FEATURES

- Long cycle life: 4000 cycles (0.5C charge and discharge, 80% DoD, @25°C)
- Supports max discharge current: 150A for M48-105, 200A for M48-150
- Supports up to 8 batteries in parallel
- Built-in BMS with automatic balancing and complete protection
- Built-in high precision shunt for accurate SOC monitoring
- Built-in heating element: automatically warms the battery during low-temperature charging
- Battery BMS idle consumption drops by over 90% (to approximately 0.05mA) from standby mode to shutdown mode
- Intelligent voltage and current control with terminal adaptive charging to ensure the well balancing among cells for optimal cycle life
- Supports CAN and RS485 communication
- Remote control: mobile APP & Bluetooth connectivity



Battery Remote Switch

- Connects to the battery via RJ45 cable
- Installable in any easily accessible location

Model NO.	M48-105	M48-150
Cell type	LiFePO4	
Rated capacity (Ah)	105	150
Rated power (kWh)	5.04	7.728
Rated voltage (V)	48	51.52
Charging voltage (V)	53.25	56.8
Recommended charging current (A)	52.5	75
Maximum charging current (A)	100	150
Continuous discharge current (A)	100	150
Maximum discharge current (A)	150 - 30min	200 - 30min
Cell operating temperature (charging) (℃)	2 ~ 63	
Cell operating temperature (discharging) (℃)	-30 ~ 63	
Storage temperature range (<1 month)	-20℃ ~ 45℃, 20% ~ 50% SOC, < 65% RH	
Storage temperature range (<6 months)	0℃ ~ 35℃, 20% ~ 50% SOC, < 65% RH	
Operating humidity range (%)	10 ~ 90 RH	
Dimensions (W × D × H) (mm)	455 x 200 x 300	500 × 290 × 305.5
Weight (kg)	39.2	60
IP rating	IP20	
Certifications	CE, UN38.3, E-mark, CB, RCM	UN38.3, UL, FCC, IC, E-mark, CE, CB, RCM
Shipping class	UN3480	
Cycle life	> 4000 (0.5C charge and discharge, 80% DoD, @25℃)	
Heating element	YES	
Maximum number of parallel	8	
Display unit (optional)	VS28-LS	VS28-LS, DTU-BLE