# M SERIES

Lithium Battery Module

**M12-150 / M12-230 / M12-300** 12VDC 150Ah / 230Ah / 300Ah










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 each cell's status. 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: > 4,000 cycles (0.5C charge/discharge, 80% DoD, @25°C)
- Supports max discharge current: 200A for M12-150, and 300A for M12-230/M12-300
- 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 <0.1mA) from standby mode to shutdown mode
- Intelligent voltage and current control with terminal adaptive charging to ensure the well balancing among cells for optimal cyclelife
- 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. | M12-150 | M12-230 | M12-300 |
|---|---|---|---|
| **Electrical** | | | |
| Cell type | | LiFePO4 | |
| Rated capacity (Ah) | 150 | 230 | 300 |
| Rated power (kWh) | 1.932 | 2.944 | 3.86 |
| Rated voltage (V) | 12.88 | 12.8 | 12.88 |
| Charging voltage (V) | | 14.2 | |
| Recommended charging current (A) | 75 | 115 | 150 |
| Maximum charging current (A) | 150 | 230 | 300 |
| Continuous discharge current (A) | 150 | 230 | 300 |
| Maximum discharge current (A) | 200 - 15 min | 300 - 30 min | 300 |
| 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 x D x H) (mm) | 333 x 175.5 x 224 | 340 × 190 × 328 | 380 × 230 × 336.5 |
| Weight (kg) | 14.7 | 24 | 32.2 |
| IP rating | | IP20 | |
| Certifications | CE, UN38.3, E-mark | CE, UN38.3, E-mark, RCM, CB | CE, UN38.3, E-mark |
| Shipping class | | UN3480 | |
| Cycle life | | > 4000 (0.5C charge and discharge, 80% DoD, at 25℃) | |
| Heating element | | YES | |
| Maximum number of parallel | | 8 | |
| Display unit (optional) | | VS28-LS, DTU-BLE | |