



# Model BB1250

50AH 12V  
LiFePO<sub>4</sub> Deep Cycle Battery  
**Data sheet**

## Electrical Specification

|                        |                                    |
|------------------------|------------------------------------|
| Voltage                | 12V                                |
| Capacity               | 50AH                               |
| Operating Temperature  | -4°F to 135°F<br>(-20°C to 57.2°C) |
| Efficiency             | 99%                                |
| Self Discharge         | 2-3% per month                     |
| Maximum Series Voltage | 48V                                |
| Cycles                 | 3K-5K                              |
| Built-in BMS           | Internal                           |
| Resistance             | 16 mΩ                              |
| Usable DoD             | 100%                               |

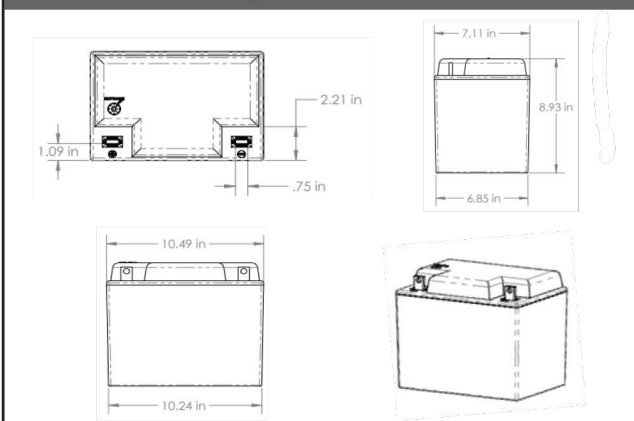
## Discharging Specification

|                               |                     |
|-------------------------------|---------------------|
| Max Discharge Current         | 60A                 |
| Peak Discharge Current        | 100A for 30 Seconds |
| Surge for Loads over 500A     | .5 Seconds          |
| Recommended LVD               | 10.5V               |
| BMS Discharge Voltage Cut-Off | 10V                 |
| Reconnect Voltage             | 10V                 |
| Short Circuit Protection      | Yes                 |

## Recognized Specification

|                |                 |
|----------------|-----------------|
| Certifications | Pending         |
| Shipping Class | UN3480, Class 9 |

## Drawing Specification



## Charging Specification

|                                      |  |
|--------------------------------------|--|
| Recommended Charge Current           | .5c                                    |
| Max Charge Current                   | 25A                                    |
| Absorption Voltage                   | 14.2V-14.6V                            |
| Float Voltage                        | 13.4V-13.8V                            |
| Equalization Voltage (if applicable) | 14.4V                                  |
| Absorption Time                      | 15 Minutes<br>per 50AH<br>battery bank |
| BMS Charge Current Cut-Off           | .5C Recommended                        |
| Recharge/Rebulk Voltage              | 13.3V                                  |
| BMS Cell Balancing Voltage Range     | 14.2V-14.6V                            |
| High BMS Voltage Protection          | 14.7VDC                                |
| Temperature Compensation             | No/Disable                             |

## Mechanical Specification

|                                    |   |
|------------------------------------|---|
| Dimensions                         | 10.49"L X 7.11"W<br>X 8.93"H                            |
| Weight                             | 22 lbs.   |
| Terminal Type                      | .25" Brass  |
| Terminal Hole                      | 3/8" hole and 3/8"<br>or 5/16" hardware<br>is suggested |
| Terminal Torque                    | 9-11 Ft-lb.   |
| Case Material                      | ABS Fire Rated  |
| Cell Type - Electrolyte            | LiFePO <sub>4</sub>                                     |
| Sealed and Water<br>Resistant Case | Non-Submersible   |

## Temperature Specification

|                              |                                    |
|------------------------------|------------------------------------|
| Discharge Temperature        | -4°F to 135°F<br>(-20°C to 57.2°C) |
| Charge Temperature           | 25°F - 135°F                       |
| Storage Temperature          | -10°F to 140°F<br>(-23°C to 60°C)  |
| BMS High Temperature Cut-Off | >135°F                             |
| BMS Reconnect Temperature    | <135°F                             |

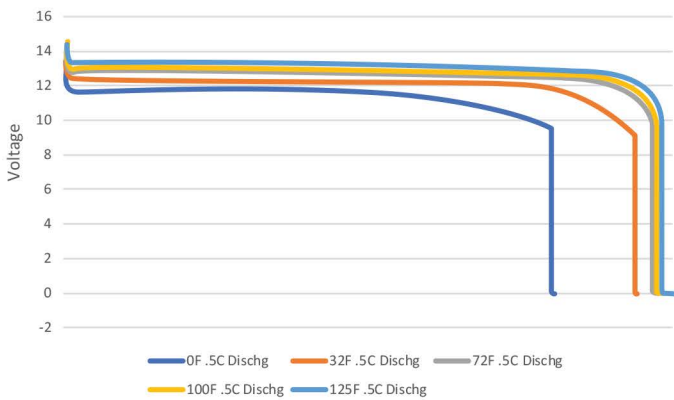


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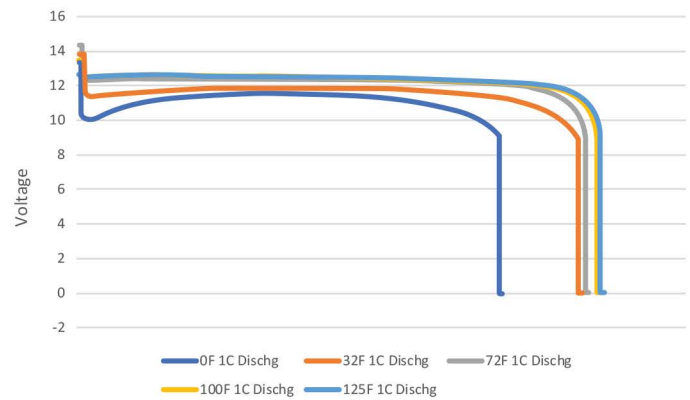
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## Performed Operation Data

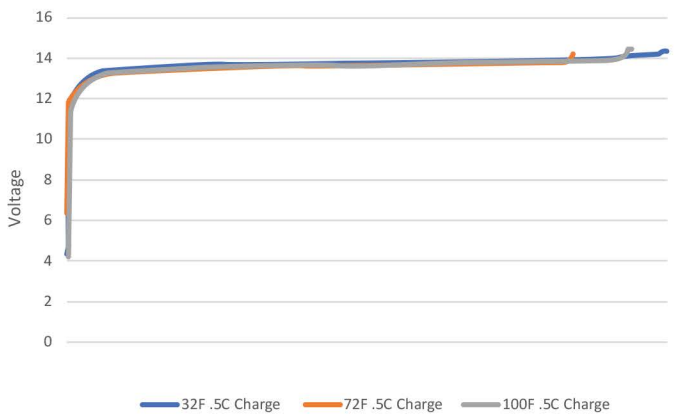
### .5C Discharge with Temperature Variations



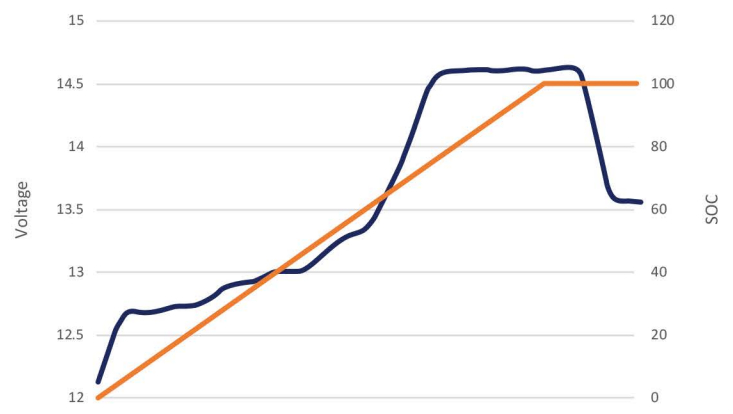
### 1C Discharge Voltage with Temperature Variations



### .5C State of Charge with Temperature Variations



### Standard Charge Curve with 3 Stage Charger



\*Note: The storage temperature range is -10°F to 140°F (-23°C to 60°C). We recommend bringing the Battle Born Batteries to a 100% charge and then disconnecting them completely for storage. After six months in storage, your batteries will remain 75 – 80% charged.

Storing batteries in subzero weather (-15°F or more) has the potential to crack the ABS plastic and more importantly could cause a faster loss of capacity, in some cases drastically more than the typical 2 – 4% per month loss.