ECO-WORTHY®

50AH 48V LiFePO4 Battery

FEATURES:

- **Smart BMS(Battery Management System)**
  Built-in BMS to protect the battery from overcharge, over temperature, over discharge, over current, low temperature and short circuit.
- **Superior Thermal Stability & Safety**
  LiFePO4 chemistry resists thermal runaway and combustion risks, even under extreme conditions, ensuring unmatched operational safety for high-stress environments.
- **Extended Cycle Life**
  With over 3,000-5,000 charge-discharge cycles (80% capacity retention), these batteries deliver long-term reliability, drastically reducing replacement frequency and lifecycle costs.
- **High Energy Density**
  Compact and lightweight design maximizes energy storage capacity per unit, ideal for space-constrained applications
- **Eco-Friendly Composition**
  Free from toxic heavy metals (e.g., cobalt, lead), LiFePO4 batteries align with global sustainability standards (RoHS compliant) and enable easier recycling.
- **Low Self-Discharge Rate**
  Minimizing energy waste and ensuring readiness for seasonal or emergency use.
- **Wide Temperature Tolerance**
  Performs reliably in extreme climates (-20°C to 55°C / -4°F to 131°F), making it adaptable for outdoor solar storage, marine, and automotive applications.
- **Maintenance-Free Operation**
  No memory effect or routine upkeep required, reducing user intervention and total ownership costs.

Technology

Lithium Iron Phosphate (LiFePO4)	
Nominal Voltage	51.2V
Rated Capacity	50AH
Charge Method	CC/CV
Charge Voltage	58.4V
Bulk/Absorption Voltage	58.4V
BMS Balancing Voltage	Any cell voltage ≥3.45V Max Voltage difference between cells >30mV In Charging
Equalize Voltage	Not applicable
Float Voltage *	Not applicable
Temperature Compensation	No/Disable
Charge Cut-off Voltage	58.4V
Discharge Cut-off Voltage	40V
Recommended Charge Current	25A
Recommended Discharge Current	25A
Maximum Continuous Charge Current	100A
Maximum Continuous Discharge Current	100A
Peak Current	120A/30s 400A/1S
WiFi	No
Bluetooth	Yes
Communication	No
Self Heating	No
Protection Rating	IP65
BMS Protection	• Over and Low voltage • Charge and Discharge Over current • Short circuit • High and Low temperature
Internal Resistance	≤30mΩ
BMS Leakage Current	≤10mA
Charge Temperature Range	32°F (0°C) to 131°F (55°C)
Discharge Temperature Range	-4°F (-20°C) to 131°F (55°C)
Storage Temperature 1 week	-4(-20°C) to 149°F (65°C)
Storage Temperature 1 month	-4°F (-20°C) to 113°F(40°C)
Storage Temperature 1 year	-4°F (-20°C) to 77°F (25°C)
Humidity Operating:	5% to 90 % RH
Humidity Storage:	35% to 85% RH
Certifications: MSDS; UN38.3; CE; PSE	
Cycle Life	4000 cycles

Max Connected
IN Parallel
2 Units

Max Connected
IN Series
1 Units

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Unit Dimensions

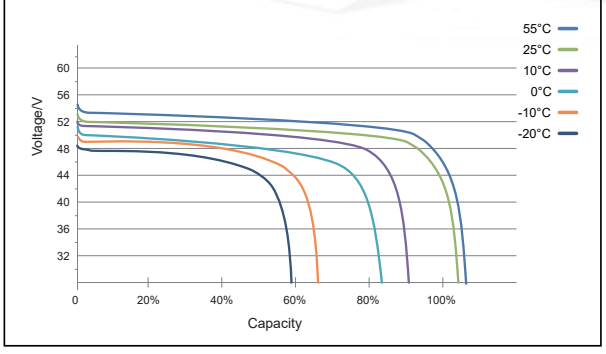
Mechanical

Length	18.11 in / 460 mm
Width	13.11 in / 333 mm
Height	4.92 in / 125 mm
Weight	58.42 lbs / 26.5 kg
Terminals	M8 insert

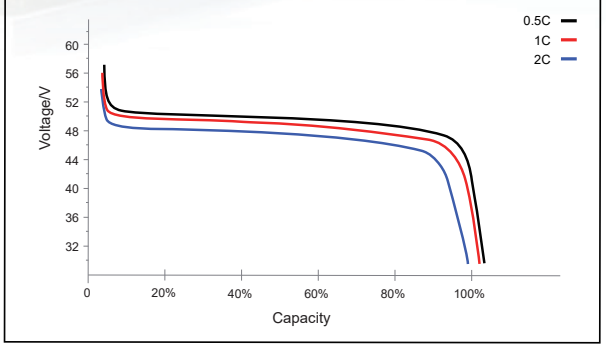
Materials

Case and Cover	METAL
Color	BLACK

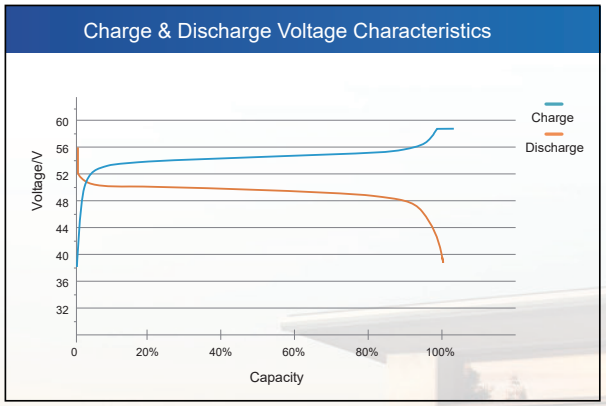
Discharge Characteristics At Various Temperatures



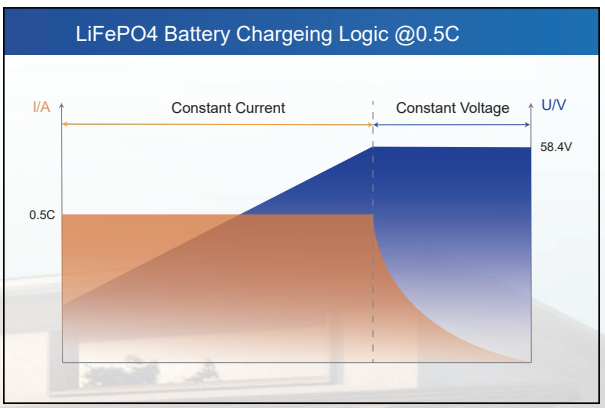
Discharge Characteristics At Various Rates



Charge & Discharge Voltage Characteristics



LiFePO4 Battery Chargeing Logic @0.5C



PLEASE NOTE

★ Lithium batteries ship under Class 9 Dangerous Goods PI 965 Section IA. Please contact your carrier company to determine their requirements for shipping. MSDS Sheets are available upon request.

★ Float charging is not applicable to lithium iron phosphate batteries, long-term float charging will accelerate battery aging or damage. If you have to set the float voltage for MPPT/PWM charge controller in solar system, we suggest to set it to (12V Battery)13.2V-13.6V, (24V Battery)26.4V-27.2V, (36V Battery)39.6V-40.8V, (48V Battery)52.8V-54.4V.