



# 50AH 12V LiFePO4 Battery

## Technology

Lithium Iron Phosphate (LiFePO4)	
Nominal Voltage	12.8V
Rated Capacity	50Ah
Charge Method	CC/CV
Charge Voltage	14.6V
Bulk/Absorption Voltage	14.6V
BMS Balancing Voltage	Any cell voltage $\geq 3.45V$ Max Voltage difference between cells $> 30mV$ In Charging
Equalize Voltage	Not applicable
Float Voltage *	Not applicable
Temperature Compensation	No/Disable
Charge Cut-off Voltage	14.6V
Discharge Cut-off Voltage	10V
Recommended Charge Current	25A
Recommended Discharge Current	25A
Maximum Continuous Charge Current	50A
Maximum Continuous Discharge Current	50A
Peak Current	100A(10s)
WiFi	No
Bluetooth	No
Communication	No
Self Heating	No
Protection Rating	IP65
BMS Protection	<ul style="list-style-type: none"> <li>• Over and Low voltage</li> <li>• Charge and Discharge Over current</li> <li>• Short circuit</li> <li>• High and Low temperature</li> </ul>
Internal Resistance	$\leq 10m\Omega$
BMS Leakage Current	$\leq 10mA$
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	
Cycle Life	4000 cycles

## 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.

-Max connected in series and parallel **8 PCs-**

Max connected  
in Parallel  
**4 units**

Max connected  
in Series  
**4 units**

# Unit Dimensions



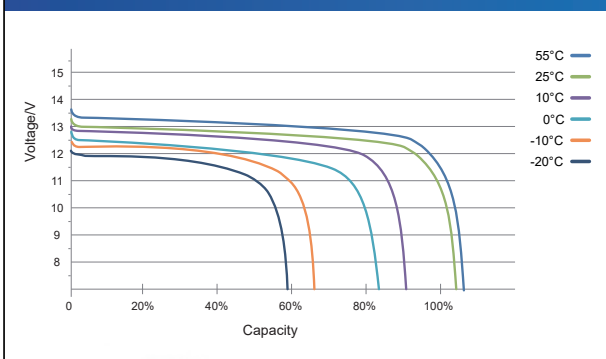
## Mechanical

Length	9.13 in / 232 mm
Width	5.31 in / 135 mm
Height	7.13 in / 181 mm
Weight	12.6 lbs / 5.7 kg
Terminals	M6 insert

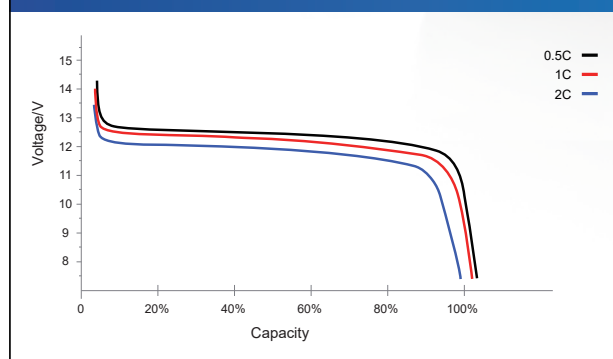
## Materials

Case and Cover	ABS
Color	BLACK

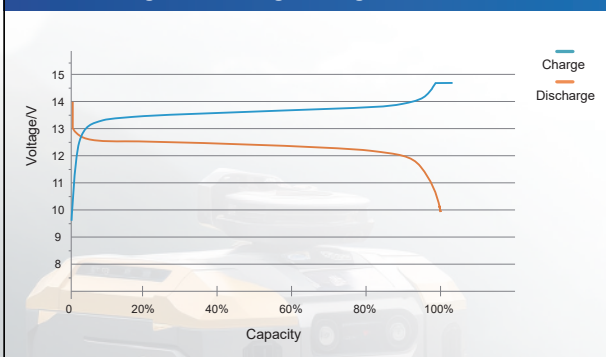
Discharge Characteristics At Various Temperatures



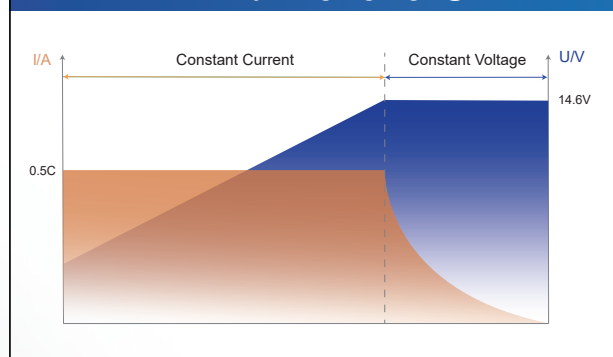
Discharge Characteristics At Various Rates



Charge & Discharge Voltage Characteristics



LiFePO4 Battery Charging 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.