



# 100AH Lithium Battery

Rechargeable Lithium Iron Phosphate Battery  
12V 100AH – LiFePO4

## BATTERY FEATURES

- Super safe lithium iron phosphate (LiFePO4) chemistry reducing the risk of explosion or combustion due to high impact, over-charging or short circuit situation
- Battery Management System (BMS) controls the parameters of the battery to provide optimum safety by protecting against over-charging and over-discharging
- BMS enhanced design balances the battery cells, optimizing battery performance
- Higher capacity or voltage capability through parallel or serial connections
- Delivers twice the power of lead acid batteries, even at high discharge rates, while maintaining constant power
- Faster charging and lower self-discharge
- Up to 10 times more cycles than lead acid batteries
- Compact and only 40% of the weight of comparable lead acid batteries
- Rugged impact resistant ABS case

## DIMENSIONS: inch (mm)



L: 12.8  
W: 6.6  
H: 8.5

## APPLICATIONS

- Medical
- Solar
- Wind
- Mobility
- Data Center
- Transport
- Sports & Recreation
- Utility

## BATTERY MANAGEMENT SYSTEM

The 100AH comes with an battery management system which monitors current and voltages during charge and discharge. This protects the battery from over-charge and over-discharge.

The BMS embeds smart balancing algorithms that control all cell voltages in the battery, making sure they are constantly at the same voltage level, optimizing battery capacity.

## PERFORMANCE SPECIFICATIONS

Nominal Voltage	12.8 V
Rated Capacity	100 AH
Stored Energy	1280 Wh
Cycle Life (@DOD80%)	5000 Cycles
Approximate Weight	21.8 lbs
Internal Resistance	≤30.0 mΩ
Max Charge Current	100 AH
Max Discharge Current	100 AH
Charging Voltage	14.4-14.6V
Recommended Discharge	
CutOff Voltage	11 V
Series & Parallel Connection	4 in series or 4 in parallel
Operating Temperature Range	
Charge	32 °F ~ 140 °F
Discharge	-4 °F ~ 140 °F
Recommended	59°F (15°C) to 95°F (35°C)
Self-Discharge Rate	≤3%/month
Long Term Storage	Charge every 6 months or as soon as OCV is 12.8V
Power Sonic Chargers	Contact us for information on a suitable charge.
Life Expectancy (years)	5 years at one cycle per day
Short Circuit Protection	Automatically recover after removal of short
Dimensional Tolerances	L 12.8 x W 6.6 x H 8.5
Terminal Type	M8

## GLOBAL HEADQUARTERS

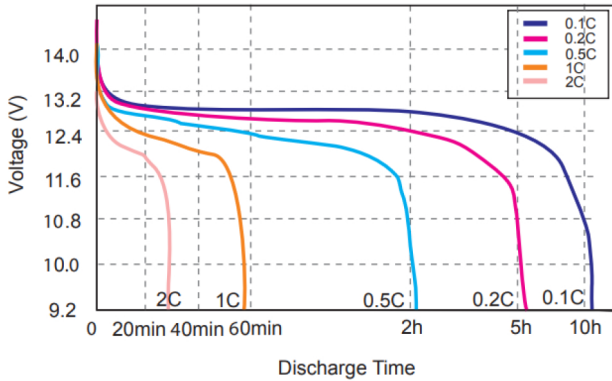
(USA AND INTERNATIONAL EXCLUDING EMEA)

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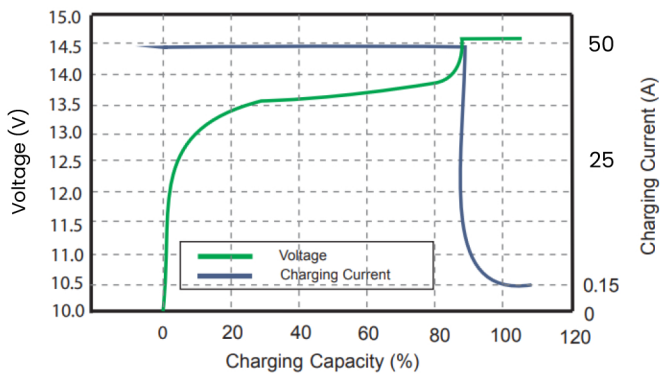
### DISCHARGE CURVE AT 25°C



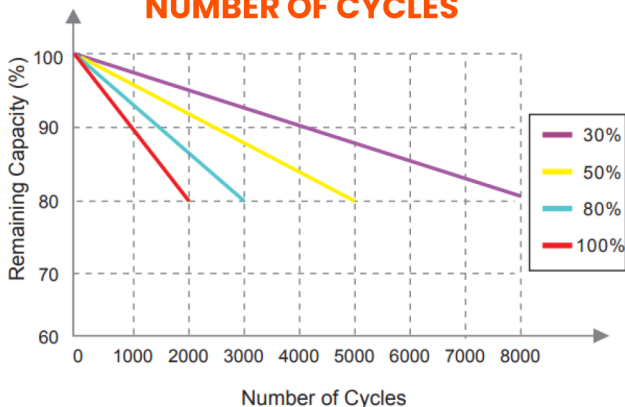
### BENEFITS OF LITHIUM

Lithium offers several performance benefits versus its sealed lead acid (SLA) equivalent. A lithium battery's capacity is independent from the discharge rate and provides constant power throughout its discharge. The degradation of a lithium battery at a high temperature is significantly reduced in comparison to SLA. Lithium has ten times the cycle life as SLA at room temperature. Even at an elevated temperature, lithium still has increased cycle life over SLA at room temperature. Lastly, Lithium charging follows a similar charging profile as SLA, Constant Current Constant Voltage (CC/CV). However, lithium can be charged faster, without the need for a maintenance float charge.

### CHARGING CHARACTERISTICS AT 0.5C



### DEPTH OF DISCHARGE VS NUMBER OF CYCLES



### BMS TECHNICAL SPECIFICATIONS

<b>Over charge</b>	
Over-charge protection for each cell	3.90 V
Over-charge release for each cell	3.60 V
Over-charge release method	Protection releases when all cell voltages drop below the over-charge release voltage
<b>Over discharge</b>	
Over-discharge protection for each cell	2.00 V
Over-discharge release for each cell	2.50 V
Over-discharge release method	Protection releases when all cell voltages rise above the over-discharge release voltage
<b>Over current</b>	
Discharge over-current protection	290-310 A
Protection delay time	31 ms
Over-current release method	Remove load for the over-current protection to release
<b>Battery temperature</b>	
Over-temperature protection	65° C
Release temperature	55° C
<b>Short circuit protection</b>	
Function condition	External short circuit
Short circuit delay time	250-500 ms
Release condition	Remove load for the short circuit protection to release

### FURTHER INFORMATION

Please refer to our website [www.richsolar.com](http://www.richsolar.com) or email us at [sales@richsolar.com](mailto:sales@richsolar.com)