

## Lithium Iron Phosphate (LiFePO<sub>4</sub>) Battery

This specification describes the property indexes and technical requirements of the Archibald 12V 50Ah rechargeable Lifepo4 lithium-ion battery manufactured by BEIJING XD BATTERY TECHNOLOGY CO., LTD.



### Features

- Using the technology of lithium iron phosphate prismatic cells, superior safety, 3500 cycles or more, @ 100% DOD
  - JBD BMS Bluetooth enabled battery management system
  - Low temperature charge protection inbuilt
  - High current charge and discharge capability (50A)
  - Maintenance free
  - Internal cell balancing
  - Lighter weight: About 40% ~50% of the weight of a comparable lead acid battery
  - Can be charged using most standard lead-acid chargers, MPPT solar chargers and alternator charging
- \*Note Smart alternators will need a DC-to-DC charging system.

### Applications

- Motorhome
- Boat
- Off Grid standalone domestic systems
- All types of battery powered personal transport

## Parameters

<b>Pack Method</b>	<b>4S1P</b>
<b>Nominal Capacity</b>	50Ah
<b>Nominal Voltage</b>	12.8V
<b>Energy</b>	600Wh
<b>Charge Voltage</b>	14.6V ± 0.2V
<b>Discharge Cut-off Voltage</b>	10V
<b>Float Voltage</b>	13.8V ± 0.2V
<b>Charge Method</b>	CC/Solar/Alternator
<b>Standard Charge Current</b>	50A
<b>Max. Charge Current</b>	50A
<b>Max. Continuous Discharge Current</b>	50A
<b>Cycle Life</b>	>3500 Times
<b>Internal Impedance</b>	≤20mΩ
<b>Dimension</b>	22x15x18cm
<b>Weight</b>	7 Kg
<b>Charge Temperature</b>	0°C to 45°C
<b>Discharge Temperature</b>	-20°C to 60°C

## Charging Methods

The Archibald LifePO4 units are equipped with the latest JBD Bluetooth BMS.

The batteries can be charged from most Charging sources as long as they fall into the parameters of the chosen unit, with the exception of a PWM solar controller.

**\*PWM chargers are not suitable for BMS equipped LiFePO4 units\***

If using a standard 240v – 12v Car battery charger if present, use the sealed lead acid / AGM setting if a specific lithium setting is not available.

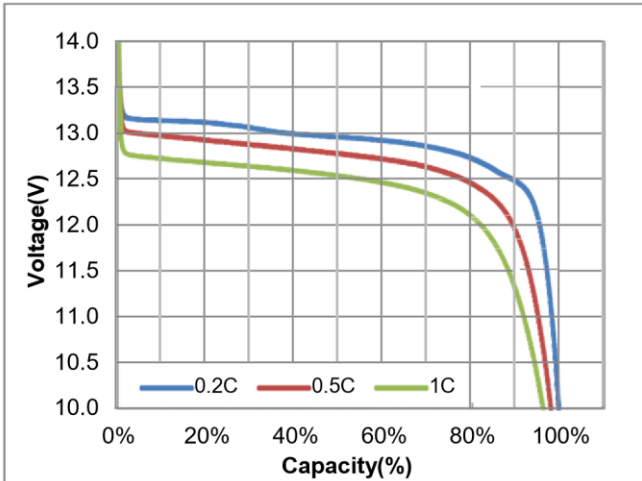
The same applies to solar chargers, if this setting is not present the equalisation charge should be set in the off position.

The Archibald unit can be used in a split charge system where it is charged from the alternator. Smart alternator systems should be equipped with a DC-to-DC charger, please check your vehicle specs

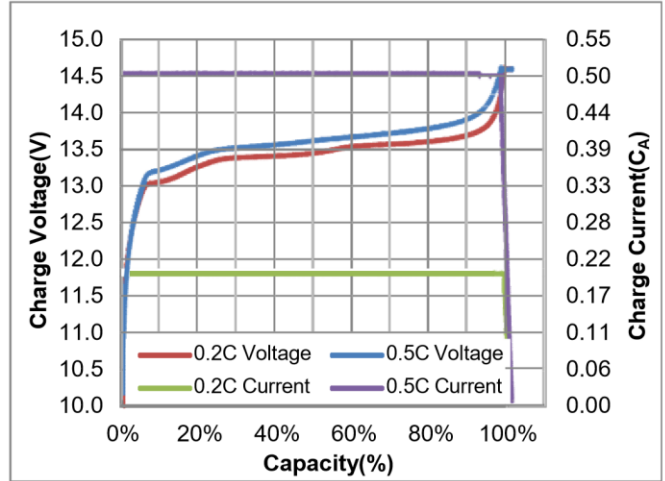
**BOAT OWNERS BEWARE** - Dedicated domestic bank alternator to Lithium battery charging is not recommended, due to sudden disconnect which can damage alternator.

# Charge and discharge curves

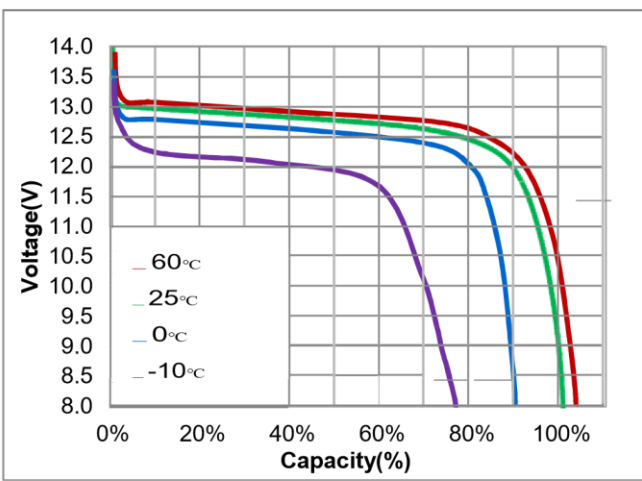
Different Rate Discharge Curve @ 25°C



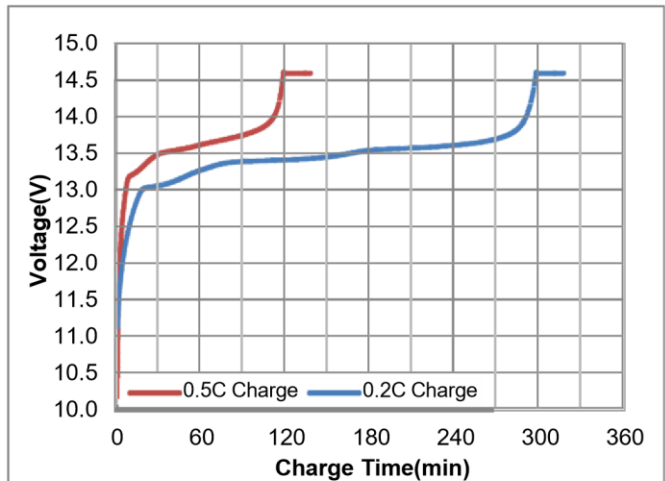
Charge Characteristics @0.2C&0.5C, 25°C



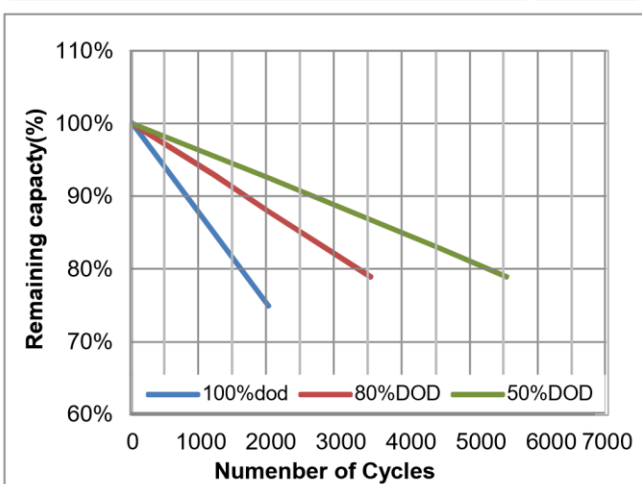
Different Temperature Discharge Curve @0.5C, 25°C



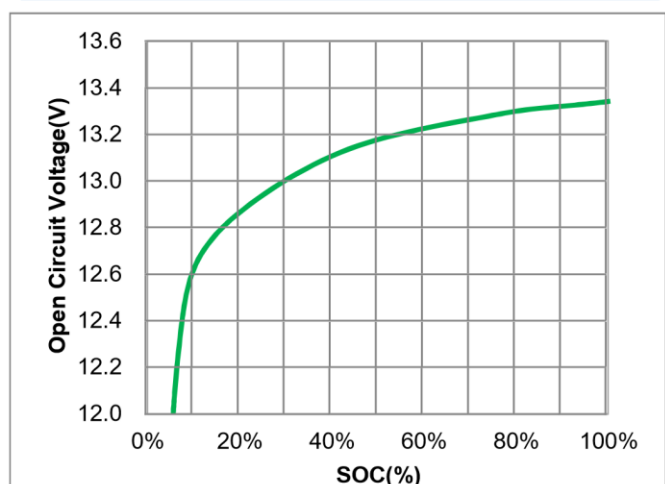
Charge Characteristics @0.2C&0.5C, 25°C



Different DOD Discharge Cycle Life Curve@0.5C, 25



Open circuit voltage VS SOC%



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