

# LFP48100(51.2V100AH)

Document: [Lithium Battery datasheet](#)

Doc. Version: [V4.0](#)

Issue Date: [1-1-2024](#)

## Overview

NEATA Lithium iron phosphate battery module which designed for storage and power supply system application.

This battery module integrated with intelligent BMS with big advantages on safety, cycle life, energy density, temperature range and environmental protection.

This product specification describes the type, size, structure, electrochemistry performance, service life, and BMS characteristics.

The specification will be updated based on different customer requirement.

## Advantages

The battery module consists of LFP cells, wire, BMS and ABS container.

- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution;
- Packing with single cell container, fire retardant wire and copper connecting bar, stable and safe.
- Built-in BMS, with battery voltage, current, temperature and health management.
- LCD(optional) indicate the battery SOC and operating status.
- Support Max 16pcs in parallel.
- Flexible customization of dimensions
- More than 15 years design life, Stable performance, maintenance-free

## Battery Images



Safety



Multipurpose



Simple Maintenance



Fast Charge/Discharge

## Customization Functions



SHENZHEN NEATA POWER TECH CO.,LTD Reminder:

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## Battery specification

### ELECTRICAL SPECIFICATIONS

Cell Type - Chemistry	LiFePo4
Nominal Voltage	51.2V
Amp Hour Capacity	100AH
Dimensions	442*480*133mm
Weight	42±0.2kgs
Terminal Type	OT-M8
Case Material	SPCC
Case IP Rating	IP35
Series connections	Not Allowed
Parallel connections	Max 16pcs
Storage Temperature	(-10 to 40°C)
Resistance - Milliohms	<20
Self Discharge per Month	< 2%

### CHARGE SPECIFICATIONS

Floating Charge Voltage	≤55.2V
Boost Charge Voltage	≤56.8V
Recommend Charge Current	≤20A
Max Charge current	≤100A
Charge current (0 to -10°C)	<0.1C
Charge current (-20 to -10°C)	<0.05C
Charge Temperature	(0 to 45°C)

### DISCHARGE SPECIFICATIONS

Recommend Discharge current	≤100A
Max Cont Discharge current	≤120A
Max Discharge Voltage	≥44.8V
Discharge Temperature	(-20 to 60°C)

### BMS SPECIFICATIONS

Version	Softversion	
Code	PBMS16S100A	
Primary Charge Current Alarm	115±5A	1S±0.2S
Second Charge Current Protection	120±5A	0.5S±0.2S
Third Charge Current Protection	Turn to 20A automatic	
High Voltage Alarm	56±0.2V	1S±0.2S
High Voltage Protection	59±0.2V	1S±0.2S
Reconnect Voltage	54.1±0.2V	
Primary Discharging Current Alarm	115±5A	1S±0.2S
Second Discharging Current Protection	120±5A	
Third Discharging Current Protection	150±5A	0.5S±0.2S
Low Voltage Alarm	44.8±0.2V	
Low Voltage Protection	43.2±0.2V	
Reconnect Voltage	47.2±0.4V	
High Temp Protection	70±3°C	
Reconnect Temp	60°C	
Balancing voltage	56±0.2V@30mV	
Balancing current	90±20mA	
Shortage current	355±5A	
Communication port	RS485/CAN/RS232	
Default protocols	Pylon-V1.2 CAN/RS485	

### Additional Functions

LCD screen(Optional)	Touchable/Button
Heater(Optional)	By charger
GPS/ Anti-theft(Optional)	by BMS system
SNMP(Optional)	Build-in protocols

### Technical specifications according EU regulation (ES) 2023/ 1542

Rated capacity 100Ah  
Capacity fade < 1 %  
Power 5120 W  
Power fade < 1 %  
Internal resistance < 20m Q  
Internal resistance increase 0,5%  
Energy round trip efficiency 99,98%  
Energy round trip fade < 0.5%  
Battery design time 15 years  
Battery design in cycles > 6000cycles@0.2C  
Applied discharge rate IC = 100A  
Applied charge rate IC = 100A  
Ratio between nominal battery power (W) and battery energy (Wh) >98%  
Depth of discharge in the cycle-life test 80%DOD  
Power capability at 80 % state of charge >80%  
Power capability at 20 % state of charge >20%

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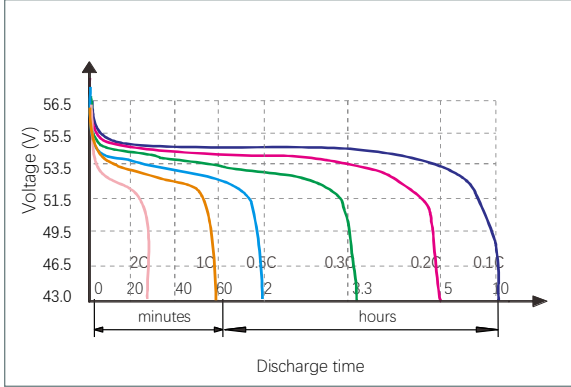
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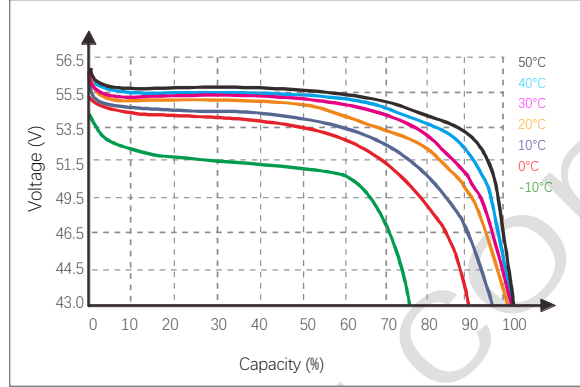
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## Performance curve

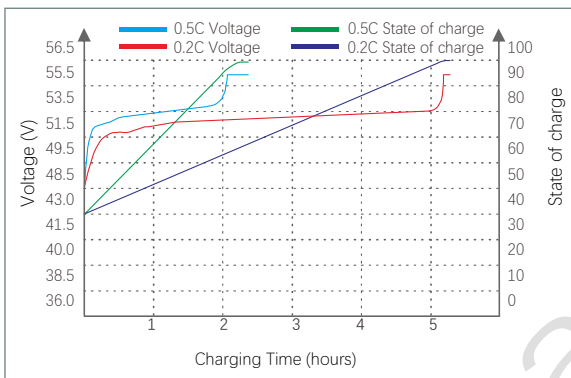
● Discharge characteristics (25°C)



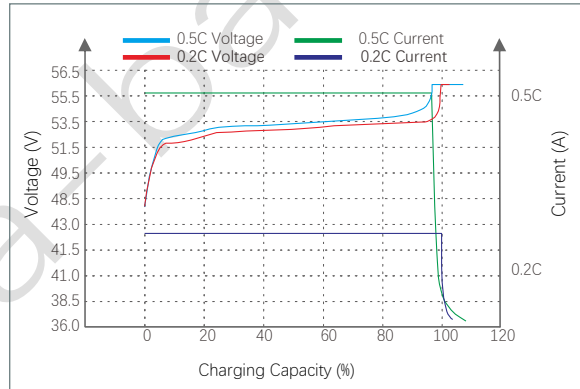
● Temperature effect on discharging (0.5C)



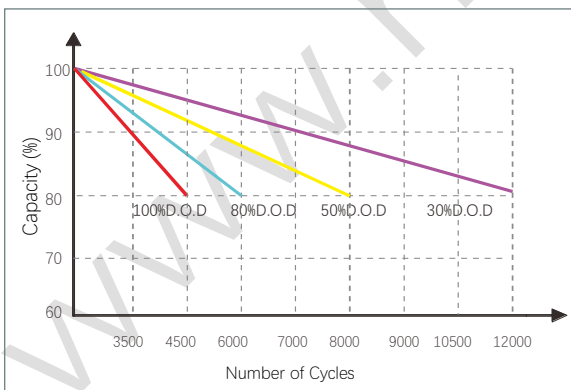
● State of Charge Curve (25°C)



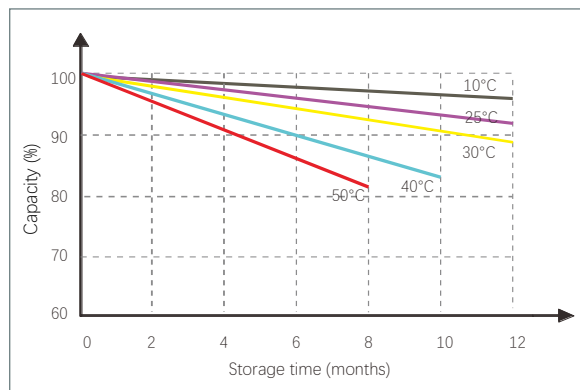
● Charge characteristics (25°C)



● Cycle Life On D.O.D 0.2C Rate (25°C)



● Self-Discharging Curve



Note 2: The above curves are based on laboratory testing data @ 25°C 40%RH



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