

**LITHIUM-ION BATTERY PRODUCT
SPECIFICATION**

DP-51100-R

V1.1

Battery Specification

1. Overview

DP-51100-R is Lithium iron phosphate battery module system which designed for energy storage power supply system application. This battery module integrated with intelligent BMS inside, has 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.

2. Advantages

The battery module system consists of single LFP cells, wire, BMS and 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 laser welding, stable and safe
- Built-in active balancing BMS, with battery voltage, current, temperature and health management
- LED indicate the battery SOC
- Supports parallel connection of multiple batteries
- Integrated with fire extinguishing module inside, Prevention of fire
- Stable performance

3. DP-51100-R photo



4. Battery module specification

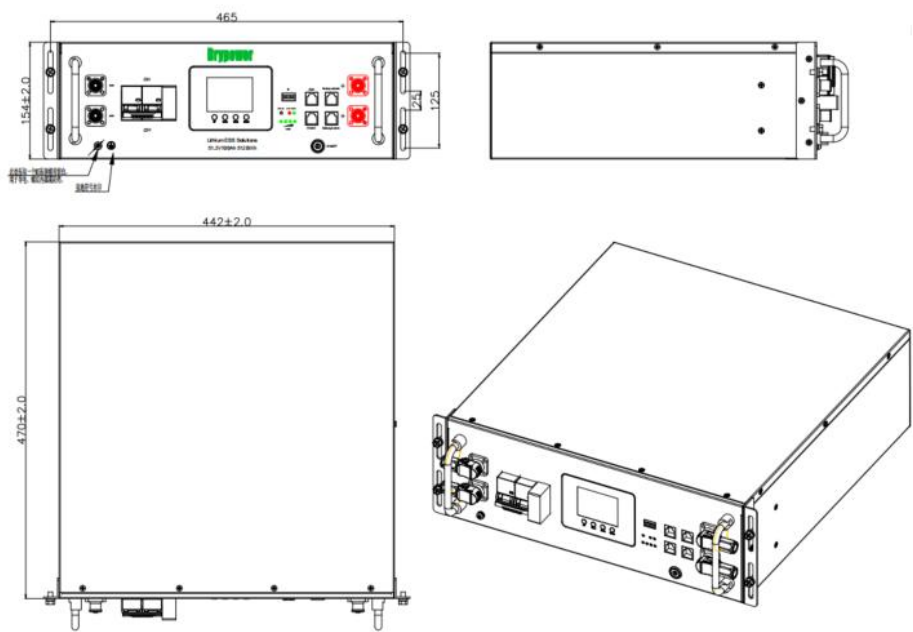
Item		Specification	Condition
Nominal	Voltage	51.2V	25°C,0.5C
	Capacity	100Ah	
	Energy	5.12kWh	
Available	Capacity	100Ah	
	Energy	5.12kWh	
Module weight		45Kg	±1kg
Dimensions(W*D*H), mm		442*470*154	±2mm
Operating parameters	Charging Voltage	56.0+/-0.8V	
	End-off Voltage	44.8V	
	Charging current & Power	Max 100A & 5kW	Recommended 0.5C&0.5P
	Discharging current & Power	Max 100A & 5kW	Recommended 0.5C&0.5P
Temperature	Charge range	0°C~50	/
	Discharge range	-20°C~50°C	/
	Recommended storage temperature	0°C~45°C	
BMS	Built-in active balancing BMS	Voltage, current, temperature	RS485/CAN
Service life	Cycle life	>6000 tims;80%DOD	@25°C,0.5C
	Design life	>10years	

5. BMS parameters

	Item	Paramters		Condition
Charge	Cell voltage protection	3.8V	Delay 1s	Recovery 3.45V
	Module voltage protection	60V	Delay 1s	Recovery 55.2V
	Over charging current 1	≥102A	Delay 20s	/
	Over charging current 2	≥120A	Delay 3s	

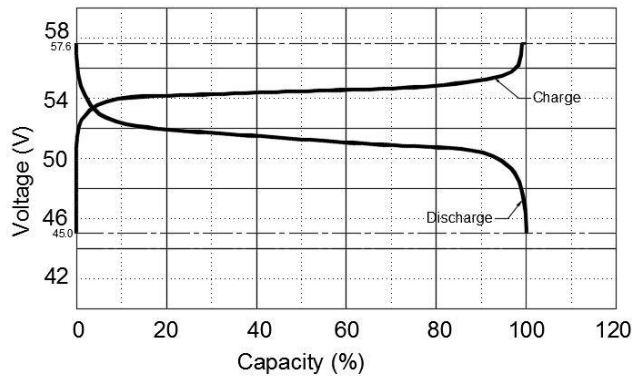
	Temperature protection	<-5°C or > 70°C	Delay 1ss	Recovery >0°C or <60°C
Discharge	Cell voltage protection	2.3V	Delay 1s	Recovery 3.1V
	Module voltage protection	43.2V	Delay 1s	Recovery 48V
	Over charging current 1	≥102A	Delay 30s	Recovery 60s
	Over charging current 2	≥120A	Delay 3s	Recovery 60s
	Temperature protection	<-20°C or >75°C	Delay 1s	Recovery >-10°C or <65°C
BMS	PCB Temp protection	>105°C	Delay 1s	Recover when <80°C
	Cell balance	100mA	Passive balance	Cell voltage difference > 40mV
	Temperature accuracy	3%	Cycle measurement	Measuring range - 40~100°C
	Voltage accuracy	0.5%	Cycle measurement	For cells and module
	Current accuracy	3%	Cycle measurement	Measuring range - 200~+200
	SOC	5%	/	Integral calculation
	Power consumption with different condition	<300uA	Sleep mode	Protection & stand-by
		<14mA	Operating mode	Charging &discharging
	Communication ports	RS485		Can be customized to match the

6 Dimension drawing

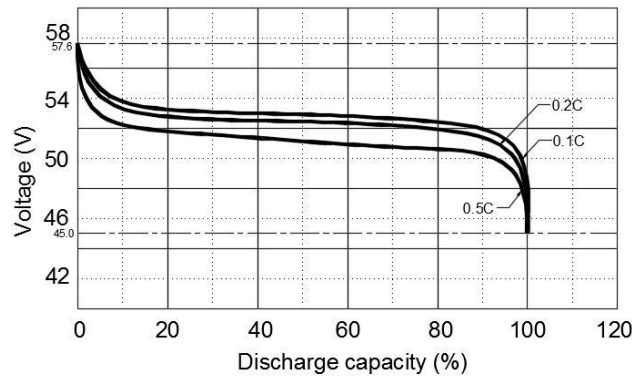


9. Performance Curve

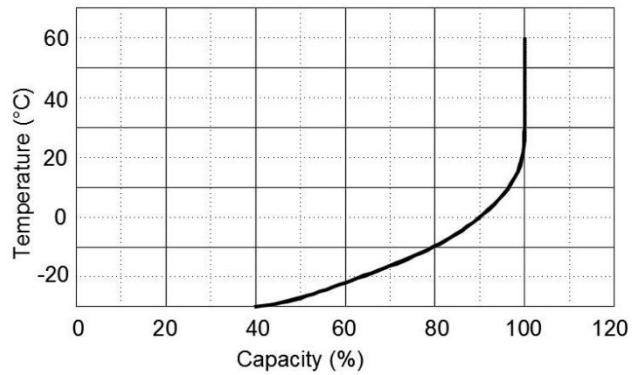
Charge & Discharge curve with 0.5C @ 25°C



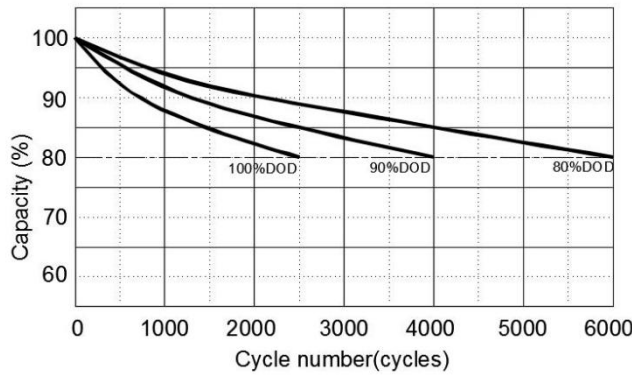
Discharge performance with different rate @ 25°C



Discharge capacity with different temperature @ 0.5C



Cycle life with DOD @ 0.5C, 25°C



Self-discharge @ different temperature

