MERITSUN®

Powerwall Home Battery

Product Specification

www.meritsunpower.com

Scope

This specification is applied to the reference battery in this Specification .

Production

Product Name : LiFePO4 Battery Pack

Specification : LFP100-48/51.2 48/51.2V 100Ah (5KWH)

LFP150-48/51.2 48/51.2V 150Ah (7KWH)

LFP200-48/51.2 48/51.2V 200Ah (10KWH)

48V Package

Battery Module		LFP100-48	LFP150-48	LFP200-48
Combination method			15S	
Rated Capacity	Typical	100Ah	150Ah	200Ah
	Minimum	100Ah	150Ah	200Ah
Factory Voltage			49.5-50.5V	
Voltage at end of Discharge			40-42.5V	
Charging Voltage			53.2-54V	
Internal Impedance			≤50mΩ	
Standard charge			Constant Current 20A Constant Voltage 0.01CA cut-off	
Standard discharge			Constant current: 20A end voltage	
Maximum Continuous Charge Current			100A	
Maximum Continuous Discharge Current			100A	
OperationTemperature Range			Charge: 0~45℃ Discharge: -20~55℃	
Storage Temperature Range			Less than 12 months : -10~35℃ Less than 3 months: -10~45℃ Less than 7 day : -20~65℃	
Volumetric specific energy		100 WH/L	95WH/L	127WH/L
Gravimetric specific energy		99WH/KG	90WH/KG	109WH/KG
Cycle life			≥8000cycle	
Dimensions		480*450*222 mm	480*650*242mm	480*650*242 mm
Weight		48kg	70kg	88kg

MERITSUN®

www.meritsunpower.com

51.2V Package

Battery Module		LFP100-51.2	LFP150-51.2	LFP200-51.2
Combination method			16S	
Rated Capacity	Typical	100Ah	150Ah	200Ah
	Minimum	100Ah	150Ah	200Ah
Factory Voltage			52.8-53.9V	
Voltage at end of Discharge			42.5-45.5V	
Charging Voltage			56.8-57.6V	
Internal Impedance			≤50mΩ	
Standard charge			Constant Current 20A Constant Voltage 0.01CA cut-off	
Standard discharge			Constant current: 20A end voltage	
Maximum Continuous Charge Current			100A	
Maximum Continuous Discharge Current			100A	
OperationTemperature Range			Charge: 0~45℃ Discharge: -20~55℃	
Storage Temperature Range			Less than 12 months : -10~35℃ Less than 3 months: -10~45℃ Less than 7 day : -20~65℃	
Volumetric specific energy		65 WH/L	95WH/L	127WH/L
Gravimetric specific energy		61.2WH/KG	90WH/KG	109WH/KG
Cycle life			≥8000cycle	
Dimensions		480*650*242 mm	480*650*242mm	480*650*242 mm
Weight		51kg	74.5kg	92.75kg

MERITSUN®

www.meritsunpower.com

BMS Specification

1. The BMS is designed for 15/16 series lithium battery.
2. The BMS have all functions which are :
   - Overcharge detection function
   - Over discharge detection function
   - Over current detection function
   - Short detection function
   - Temperature detection function
   - Balance function
   - Communicate function
   - Alarm function

BMS Parameter

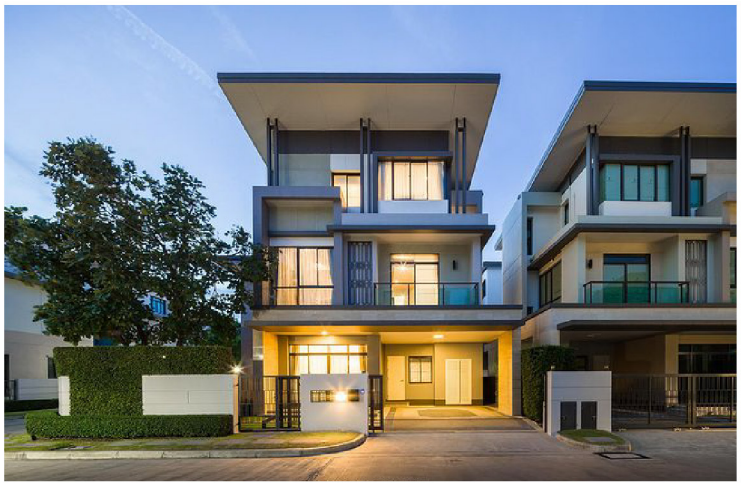
48V 15S / 16S Typical value specifications

Items	Details	Standard
Cell overcharge protection	Overcharge detection voltage	3.70±0.025V
	Overcharge detection delay time	Typical:1.0s
	Overcharge release voltage	3.45±0.02V
Cell over-discharge protection	Over-discharge detection voltage	2.75±0.02V
	Over-discharge detection delay time	Typical:1.0s
	Over-discharge release voltage	3.05±0.02V or charge release

48V 15S / 16S Typical value specifications

Items	Details	Standard
Over-current protection	discharge Over-current protection current1	120±10A
	discharge Over-current detection delay time 1	1S
	discharge Over-current protection current2	150±10A
	discharge Over-current detection delay time2	3.45≤100ms±0.02V
	Charge OC protection current	120±10A
Short protection	Short protection current	350±10A
	Protection condition	Load short
	Detection delay time	≤800us
	Protection release condition	Charging release
Temperature(T) protection	Charge high (T) protection	65±2℃
	Charge high (T) recover	60±5℃
	Discharge high (T) protection	65±2℃
	Discharge high (T) recover	60±5℃
	Charge low (T) protection	-5±2℃
	Charge low (T) recover	0±2℃
	Discharge low (T) protection	-20±5℃
	Discharge low (T) recover	-15±5℃
Balance	Balance threshold voltage	3.45V
Communication	It has RS232 and RS485 standard communication interface, it can real-time monitoring the capacity of battery bank, the voltage, current, environment temperature, and charging/discharging current.	
Alarm	It has over-temperature, over charge, under-voltage, over-current, short circuit alarm function.	

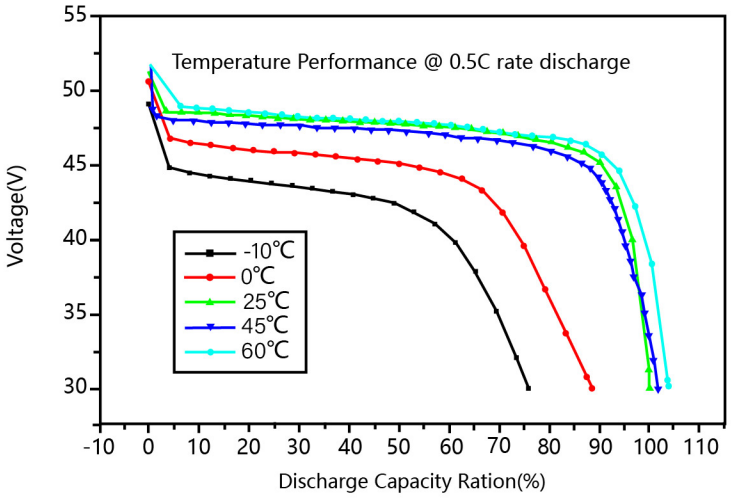
Product Application

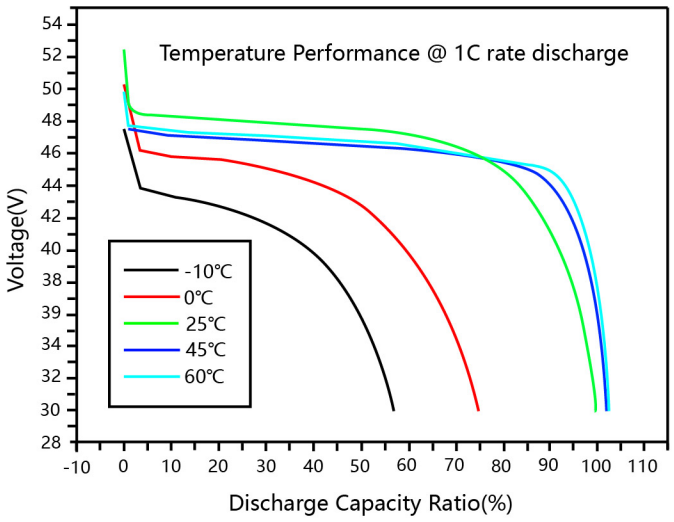


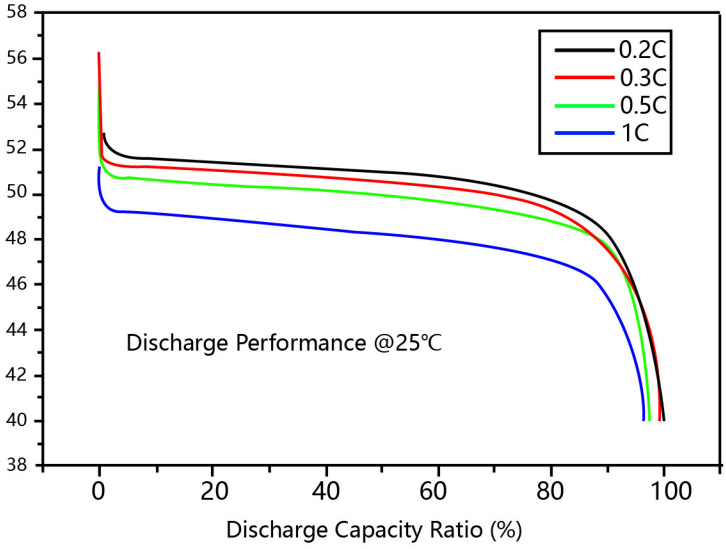
MERITSUN®

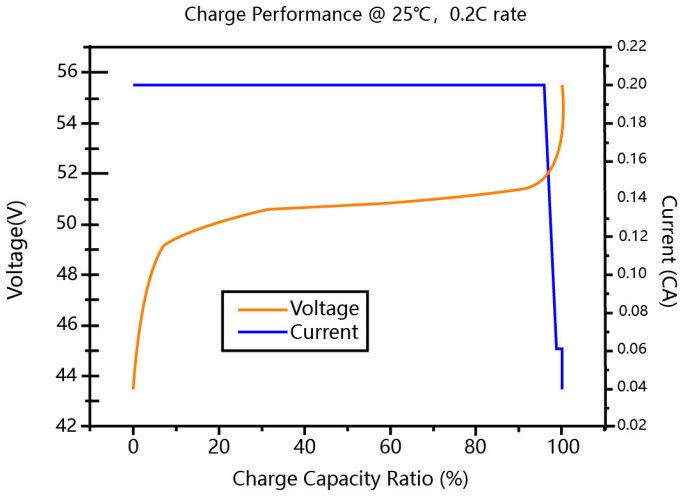
www.meritsunpower.com

Discharge Curve& Charge Curve

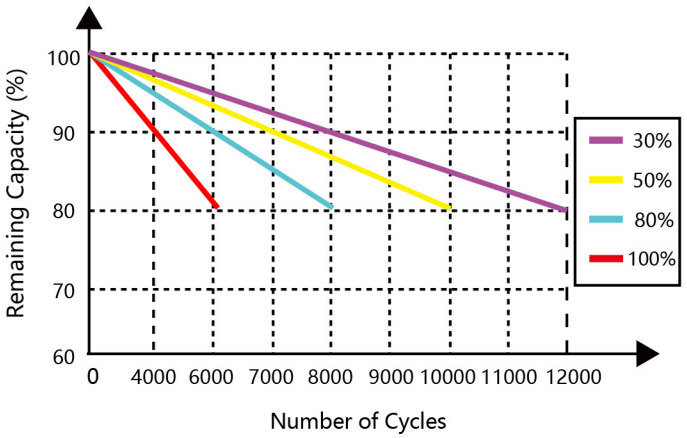




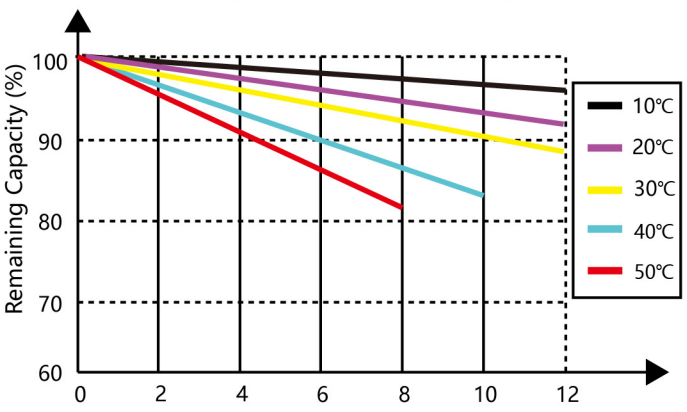




Different DOD Discharge Cycle Life Curve @1C



Different Temperature Self Discharge Curve



MERITSUN®

www.meritsunpower.com

MERITSUN®

www.meritsunpower.com