

EXTRACELL Lithium Iron Phosphate (LiFePO₄) Battery

ELFP12.8-50

Features of LiFePO₄ Battery

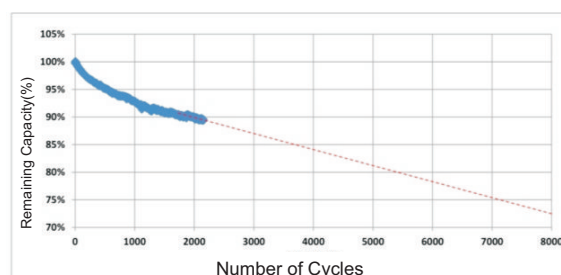
- **Longer Cycle Life:** Offers up to 20 times longer cycle life and five times longer float/calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.
- **Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement for lead acid batteries.
- **Higher Power:** Delivers twice power of lead acid battery, even high discharge rate, while maintaining high energy capacity.
- **Wider Temperature Range:** -20°C~60°C.
- **Superior Safety:** Lithium Iron Phosphate chemistry eliminates the risk of explosion or combustion due to high impact, overcharging or short circuit situation.
- **Increased Flexibility:** Modular design enables deployment of up to four batteries in series and up to ten batteries in parallel.



Application

- Electric vehicles, electric mobility
- Solar/wind energy storage system
- UPS, backup power
- Telecommunication
- Medical equipment
- Lighting

Cycle Life Curve



Specification

Electrical Characteristics	Nominal Voltage	12.8V
	Nominal Capacity	50Ah (C ₅ ,25°C)
	Energy	640Wh
	Internal Resistance	≤150mΩ
	Cycle Life	> 6000 Cycles @ 0.2C
	Months Self Discharge	<3%
	Efficiency of Charge	100% @0.2C
	Efficiency of Discharge	96~99% @1C
Standard Charge	Charge Voltage	14.6±0.2V
	Charge Mode	0.2C to 14.6V, then 14.6,charge current 0.02C(CC/CV)
	Charger Current	10A
	Max. Charge Current	50A
	Charge Cut-off Voltage	14.8V±0.2V
Standard Discharge	Continuous Current	10A
	Max. Pulse Current	150A(<3s)
	Discharge Cut-off Voltage	10.5V
Environmental	Charge Temperature	0°C~ 45°C(32°Fto113°F)@60±25% Relative Humidity
	Discharge Temperature	-20°C~60°C(-4°Fto140°F)@60±25% Relative Humidity
	Storage Temperature	0°C~40°C(32°Fto104°F)@60±25% Relative Humidity
	Water Dust Resistance	
Mechanical	Cell & Method	3.2V25AH-4S2P
	Plastic Case	ABS
	Dimensions (in./mm.)	229*138*205 mm
	Weight (lbs./kg.)	6.5Kg
	Terminal	M6
	Protocol (optional)	NO
	BMS	4S50A

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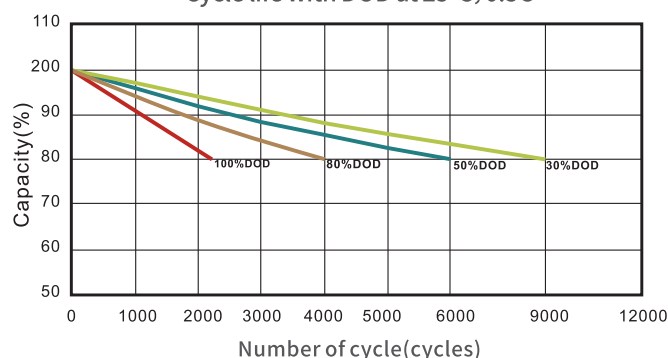
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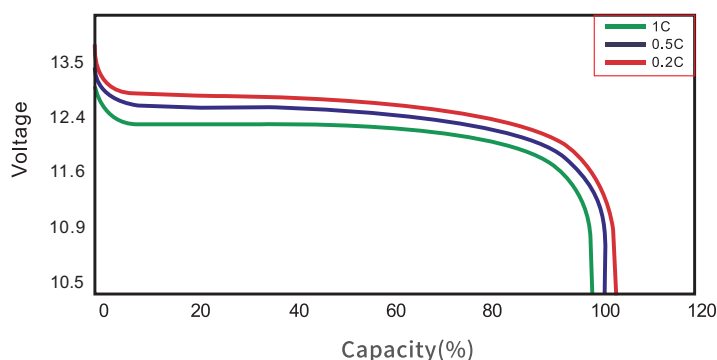
Model Performance Diagrams

Number of Cycles Vs. DOD

Cycle life with DOD at 25°C, 0.5C

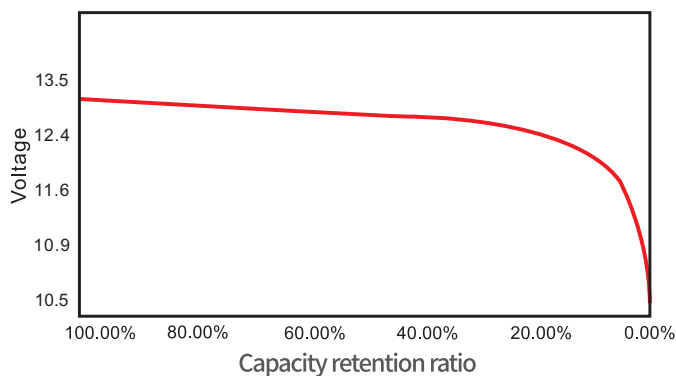


Discharge Performance at R.T.



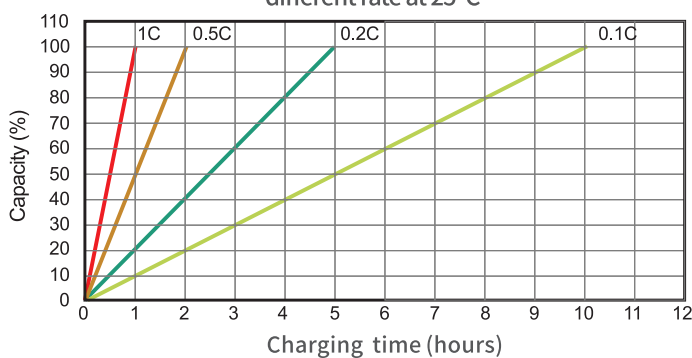
Battery Capacity (C) VS. Open Circuit Voltage (OCV)

SOC Vs OCV

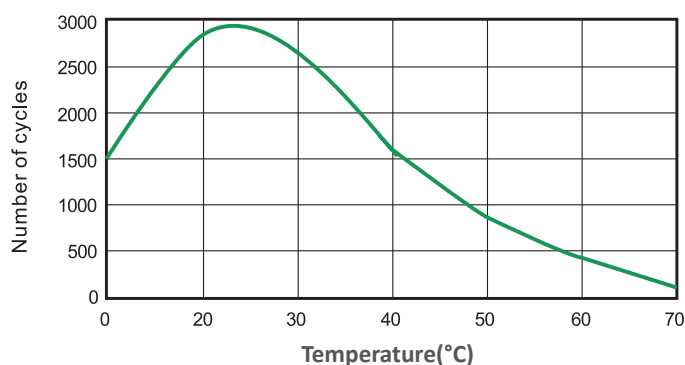


Battery Capacity Vs. Charging Time

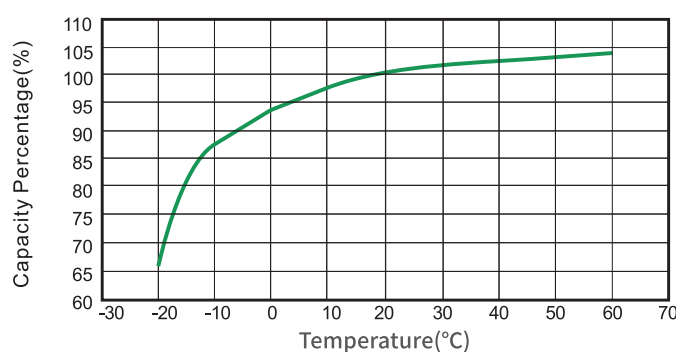
Charging capacity(%) VS time with different rate at 25°C



Cycle Life in Relation to Temperature



Temperature Effects on Capacity



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