

EXTRACELL Lithium Iron Phosphate (LiFePO4) Battery

ELFP12.8-18

Features of LiFePO4 Battery

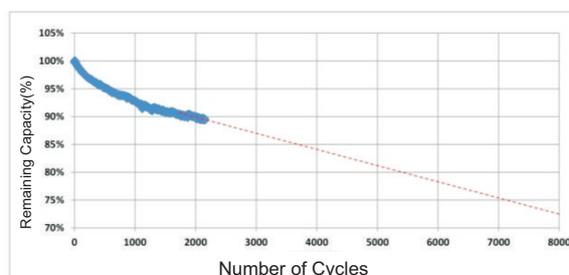
- **Longer Cycle Life:** Offers up to 20 times longer cycle life and five times longer float/calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.
- **Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement 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	18Ah (C ₅ , 25°C)
	Energy	230.4Wh
	Internal Resistance	≤100mΩ
	Cycle Life	>6000 cycles@0.2C
	Months Self Discharge	<3%
	Efficiency of Charge	100%@0.2 C
	Efficiency of Discharge	96~99%@1 C
Standard Charge	Charge Voltage	14.6±0.2V
	Charge Mode	0.2C to 14.6V, then 14.6V, charge current to 0.02C(CC/CV)
	Charger Current	3.6A
	Max. Charge Current	20A
	Charge Cut-off Voltage	14.8V±0.2V
Standard Discharge	Continuous Current	3.6A
	Max. Pulse Current	60A(<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	3.2V6AH-4S3P
	Plastic Case	ABS
	Dimensions (in./mm.)	181*77*168mm
	Weight (lbs./kg.)	2.8Kg
	Terminal	M5
	Protocol (optional)	NO
	BMS	4S20A

ELCART DISTRIBUTION SPA via Michelangelo Buonarroti, 46 - 20093 Cologno Monzese (Milano) ITALY
 Tel. +39 02.25117310 Fax +39 02.25117610 sito internet: www.elcart.com e-mail: tecnico@elcart.it

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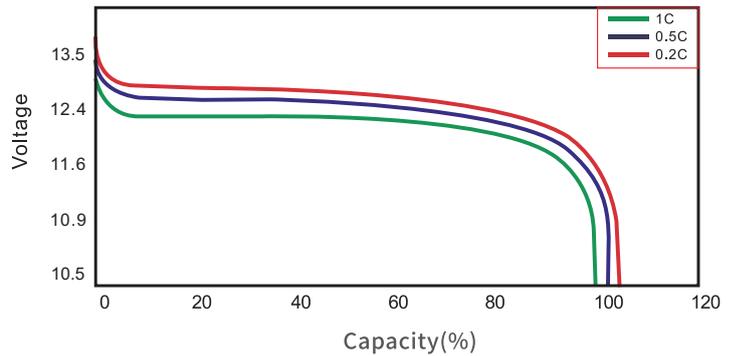
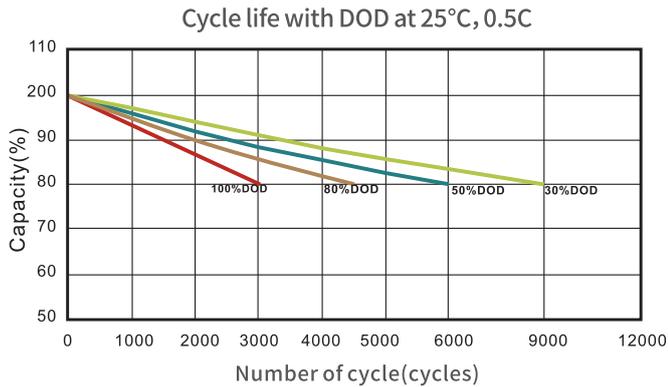
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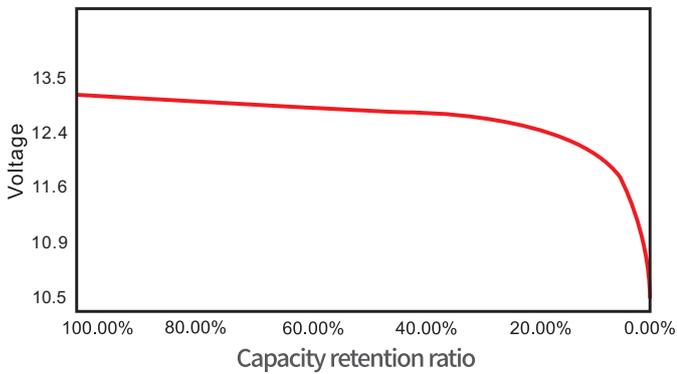
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Model Performance Diagrams

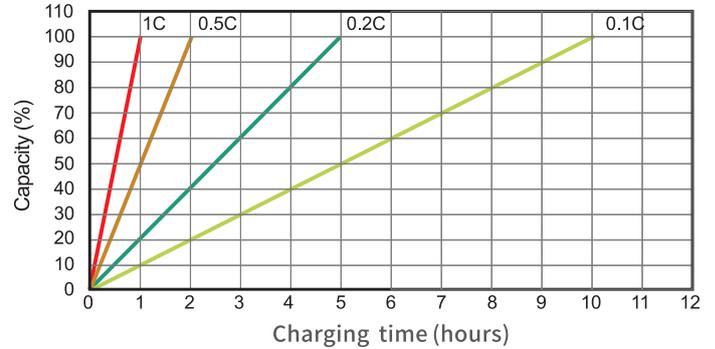
Number of Cycles Vs. DOD



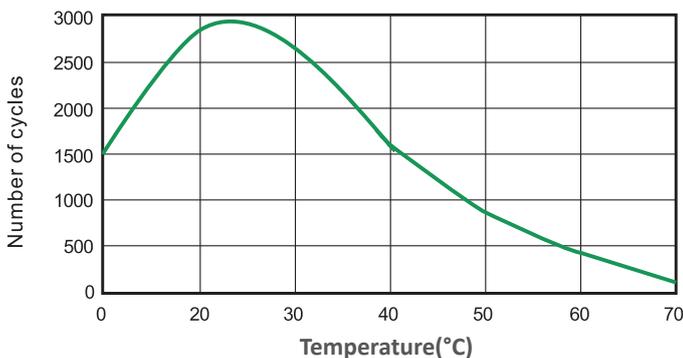
Battery Capacity (C) VS. Open Circuit Voltage (OCV) SOC Vs OCV



Battery Capacity Vs. Charging Time



Cycle Life in Relation to Temperature



Temperature Effects on Capacity

