

BATT-LFP-12-50

Lithium Iron Phosphate Battery



Renogy Lithium Iron Phosphate Battery is perfect for deep-cycle applications including electric vehicles, solar/wind energy system, UPS battery backup, telecommunication systems, medical equipment, and more.

Specifications

Electric Characteristics	Nominal Voltage		12.8V
	Rated Capacity (0.2C)		50Ah
	Minimal Rated Capacity (0.2C)		47.5Ah
	Energy		640Wh
	Specific Energy		95.5Wh/kg
	Energy Density		114.4Wh/L
	Internal Resistance		≤30mΩ
	Cycle Life (0.2C, 20±5°C)		100% DOD 2000 cycles
Charging Parameters	Charge Voltage		14.4 ± 0.2V
	Maximum Charge Current		50A
	Charge Cut-off Voltage		14.6V
Discharging Parameters	Maximum Continuous Discharge Current		50A
	Discharge Cut-off Voltage		≥10V
Temperature Parameters	Operation Temperature Range (60±25% R.H.)	Charge	0~45°C
		Discharge	-20~60°C
		Recommended	23±5°C
	Storage Temperature Range (60±25% R.H.)	Less than 1 year	0~25°C
		Less than 3 months	-5~35°C
Mechanical Properties	Dimensions	Length	197±3mm
		Width	166±3mm
		Height	171±3mm

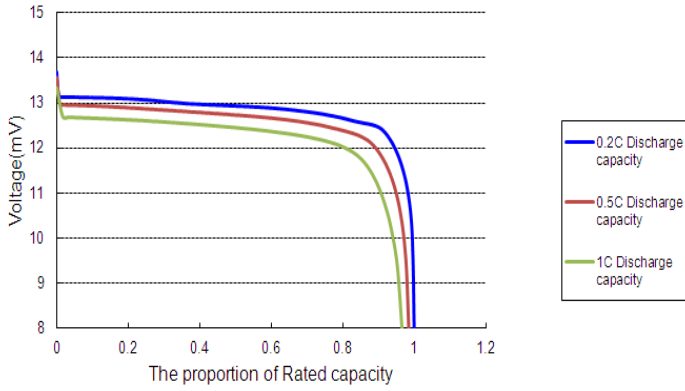
	Weight	6.7kg
	Housing Material	ABS+PC
	Terminal Model	M8x20mm
	Cell Model	IFR26650-3.4AH
	Assembly Method	4S15P

Specification of Protection Circuit Module

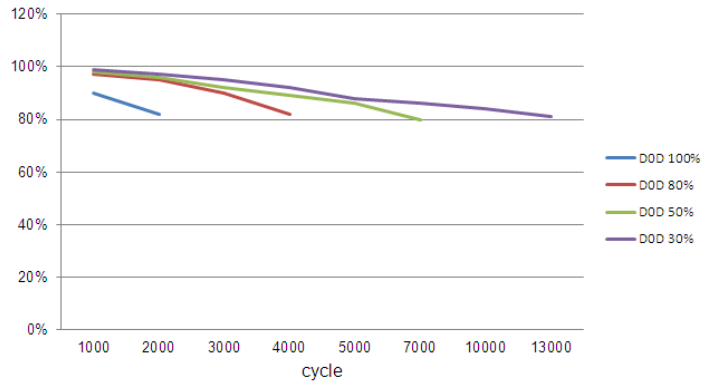
Overvoltage Protection	Protection Voltage (Single Cell)		3.80±0.05V
	Delay Time		0.5~2s
	Recovery Voltage (Single Cell)		3.50±0.05V
Under voltage Protection	Protection Voltage (Single Cell)		2.30±0.05V
	Recovery Voltage (Single Cell)		2.60±0.05V
Overcurrent Protection	Protection Current		150A
	Recovery Mechanism		Disconnect Load
Short-circuit Protection	Trigger Mechanism		External Short-circuit
	Delay Time		100~400µs
	Recovery Mechanism		Disconnect Load
Over-temperature Protection	Charge	Protection Temperature	60°C
		Recovery Temperature	50°C
	Discharge	Protection Temperature	65°C
		Recovery Temperature	55°C

NOTE: Do NOT string this battery in series. It is made ONLY for parallel connections using identical batteries.

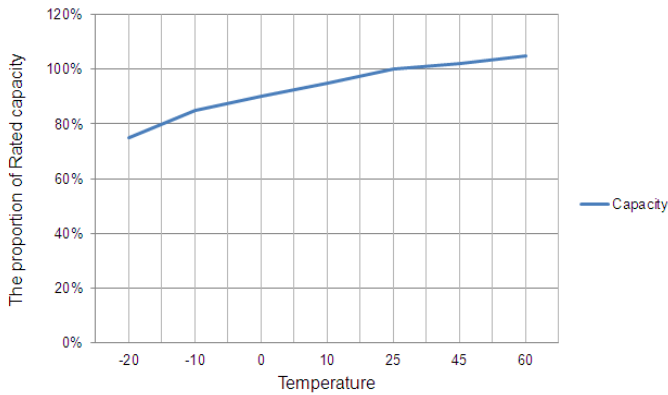
Rate Discharge Curve



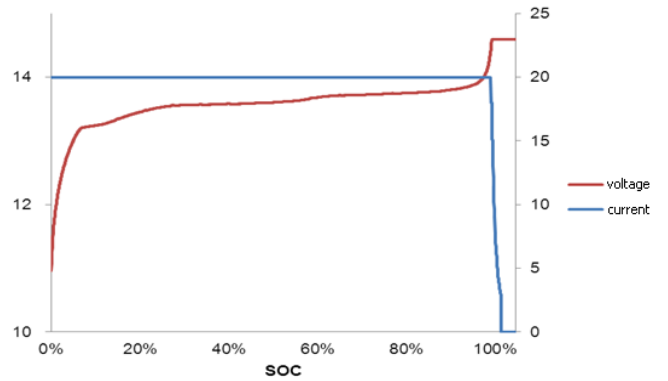
Different DOD Cycle Life Curves



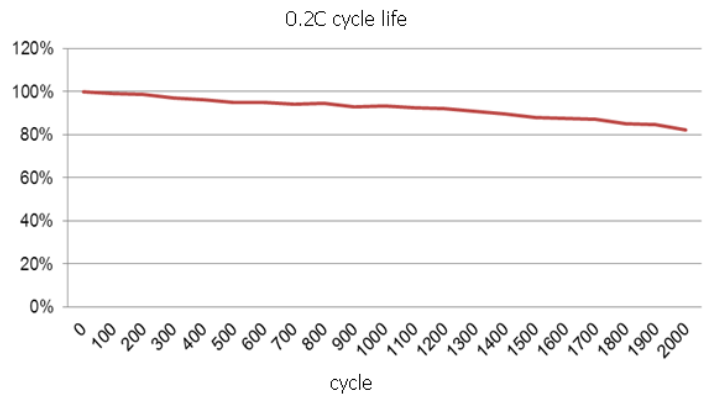
Gradient Discharge Curve



Charging Characteristics



Cycle Life Curve at 100% DOD



Maintenance and Cautions

- Avoid over-discharging batteries
- Charge the batteries with recommended voltages, ensure the battery can be fully charged
- Generally, recharge capacity should be $1.1 \sim 1.5 \times$ the discharge capacity
- The effect of temperature on cycle charge voltage: $-4 \text{ mV} / ^\circ\text{C} / \text{Cell}$
- Length of cycle services is significantly affected by depth for discharge (primarily), along with ambient temperature, discharge rate, and the way the battery is recharged.

Note: Make sure to tightly screw the battery terminals in, having loose battery terminals will cause the terminals to build up heat resulting in damage to the battery.