

## 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

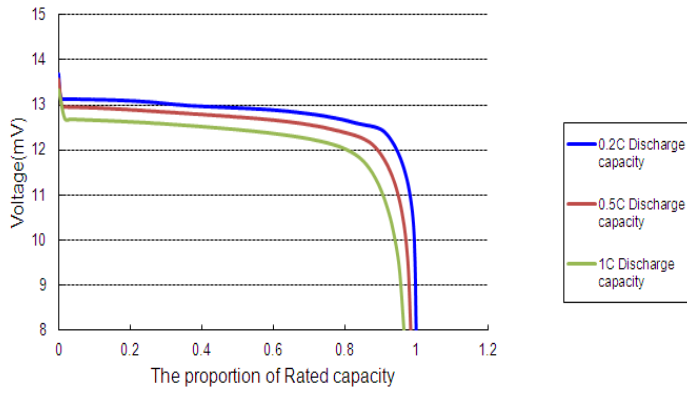
	Weight	6.7kg
	Housing Material	ABS+PC
	Terminal Model	M8x20mm
	Cell Model	IFR26650-3.4AH
	Assembly Method	4S15P

### Specification of Protection Circuit Module

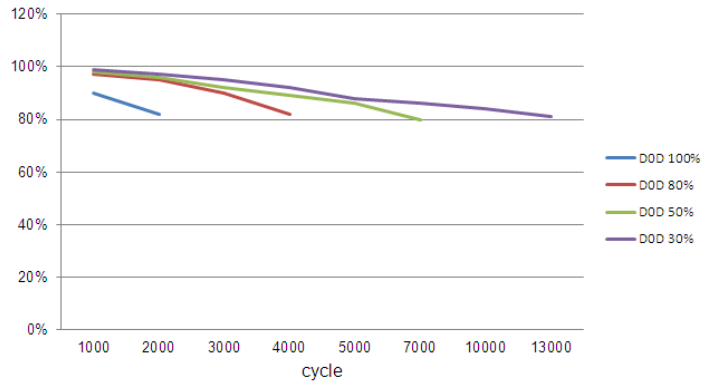
Overvoltage Protection	Protection Voltage (Single Cell)		3.80±0.05V
	Delay Time		0.5~2s
	Recovery Voltage (Single Cell)		3.50±0.05V
Under voltage Protection	Protection Voltage (Single Cell)		2.30±0.05V
	Recovery Voltage (Single Cell)		2.60±0.05V
Overcurrent Protection	Protection Current		150A
	Recovery 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.**

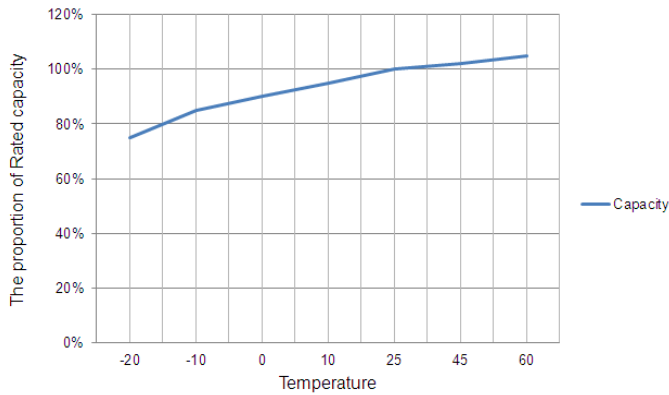
### Rate Discharge Curve



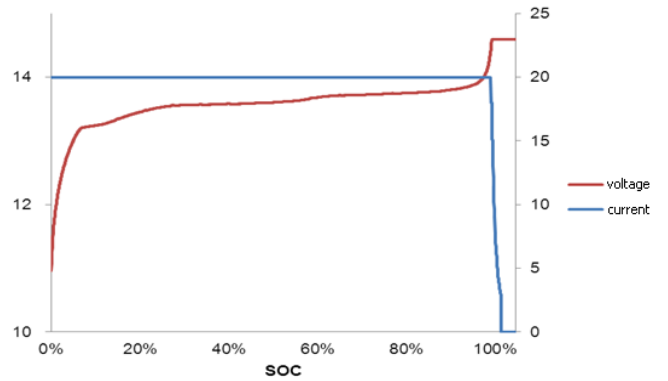
### Different DOD Cycle Life Curves



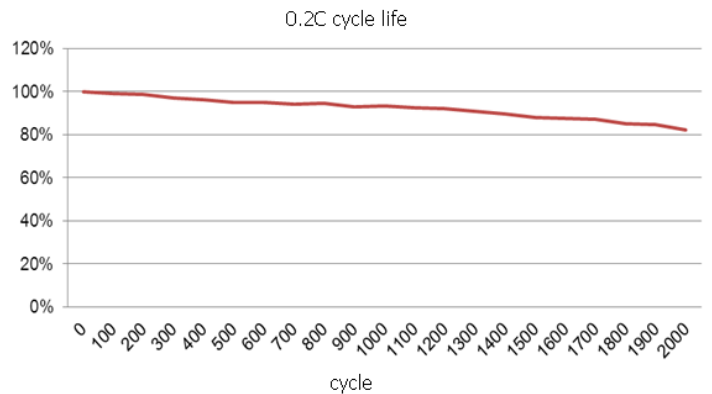
### Gradient Discharge Curve



### 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.**