

# LITHIUM BATTERY SPECIFICATIONS

## 12 Volt LIFEP04

**Li**  
Lithium



### Lithium-Iron Phosphate Battery (LiFePO4)

- Longer-life and inherently safe
- Lowest Risks of overheating dangers
- Commonly Used in renewable energy, power tools, medical equipment
- Heavier and Higher Cost, but More Life Cycles than Li(NiCoMn)O2
- Energy Density (95-140) Wh/kg

(source: <http://synergyfiles.com/2015/09/5-types-of-lithium-ion-batteries>)

Type	LiFePO4 Lithium-Iron Phosphate				
Model	12V50AH	12V100AH	12V200AH	12V300AH	12V400AH
Nominal capacity (Amp Hour)	50 Amp Hour	100 Amp Hour	200 Amp Hour	300 Amp Hour	400 Amp Hour
Retail Price with Free Shipping	\$599	\$1299	\$2299	\$3299	\$3999
Nominal Operating Voltage	12 Volts to 12.8 Volts				
Cell Type	3.2V/50Ah	3.2V20Ah	3.2V20Ah	3.2V50Ah	3.2V200Ah
Cell Configuration	4S1P	4S5P	4S10P	4S10P	4S2P
Max. Charge Current	25A	40A	40A	50A	50A
Max. Charging Voltage / Float	14.4V / 14.6V Float				
Max. Discharge Current	200 AMPS (Controlled by BMS, Customization Available)				
Constant Discharge Current	100 AMPS				
Minimum Life Cycles @ 80% DOD	>4000				
Dimensions	280 x 246 x 156 mm 11" x 9.7" x 6.1"	280 x 246 x 156 mm 11" x 9.7" x 6.1"	355 x 272 x 166 mm 14" x 10.7" x 6.5"	460 x 380 x 320 mm 18" x 15" x 12.5"	615 x 205 x 450 mm 24.2" x 8" x 17.7"
Weight	13KG / 28LBS	16KG / 35LBS	30KG / 66LBS	43KG / 94LBS	80KG / 177LBS
Case Material	ABS			Metal Case	
Work Temp	-20~+60°C				
Humidity	45~85%RH				
BMS Protections	Float Charge Function, Over-Charge Protection, Max-Discharge 200A, Over-Discharge, Overload, Short-Circuit				

# LITHIUM BATTERY SPECIFICATIONS

## 12 Volt Li(NiCoMn)O2

**Li**  
Lithium



### Lithium-Nickel Manganese Cobalt Oxide Battery

- Smaller and Lighter than LIFEP04
  - Lower Cost, but Lower Life Cycles than LIFEP04
  - Has Lowest Heat Risk besides LIFEP04
  - Commonly Used Electric Cars, Power tools, e-bikes, Scooters
  - Energy Density (95-130) Wh/kg
- (source: <http://synergyfiles.com/2015/09/5-types-of-lithium-ion-batteries>)

Type	Li(NiCoMn)O2 Lithium-Nickel Manganese Cobalt Oxide			
Model	12V50AH	12V100AH	12V200AH	12V300AH
Nominal capacity (Amp Hour)	50 Amp Hour	100 Amp Hour	200 Amp Hour	300 Amp Hour
Retail Price with Free Shipping	\$449	\$899	\$1599	\$2299
Nominal Operating Voltage	12 Volts			
Cell Type	3.7V2500mAh	3.7V2500mAh	3.7V2500mAh	3.7V3000mAh
Cell Configuration	3S20P	3S40P	3S80P	3S100P
Max. battery charging voltage	12.6 Volts			
Max. discharge current	300 AMPS			
Constant discharge current	100 AMPS			
Minimum Life Cycles @ 80% DOD	>1500			
Dimensions	280 x 246 x 156mm 11" x 9.7" x 6.1"	280 x 246 x 156 mm 11" x 9.7" x 6.1"	355 x 272 x 166 mm 14" x 10.7" x 6.5"	415 x 335 x 180 mm 16.3" x 13" x 7"
Weight	6KG / 13 LBS	10KG / 22LBS	19KG / 41LBS	24KG / 52LBS
Working Temp	-20~+60°C			
Humidity	45~85%RH			
BMS Protections	Over-charge, over-discharge, overload, short-circuit			

Do NOT string battery in a series, It is made ONLY for parallel connections

# LITHIUM BATTERY SPECIFICATIONS

## 48 Volt LIFEP04



Type	LiFePO4	LiFePO4	LiFePO4
Model	48V200AH	48V400AH	48V600AH
Nominal capacity	200Ah	400AH	600AH
Nominal voltage	48V	48V	48V
Cell type	36115200-3.2V-50Ah	32135230-3.2V-80Ah	31135230-3.2V-75Ah
Configuration	15S4P	15S5P	15S8P
Max. battery charging voltage	54V	54V	54V
Max. discharge current	200A	200A	200A
Constant discharge current	100A	100A	100A
Life Cycles*			
100% DOD	>2000		
50% DOD	>5000		
Work Temp	-20-60	-20-60	-20-60
Humidity	45%-85%	45%-85%	45%-85%
Protections	Over-charge, over-discharge, overload, short-circuit		
AC Charger	Optional		
Communication mode	RS485		
Package	In steel case		
Size	660 x 480 x 260 mm 26 x 19 x 10"	930 x 550 x 260mm 36 x 21 x 10"	1020 x 850 x 260mm 40 x 33.5 x 10"
Weight	110KG / 242LB	285KG / 628 LB	440KG / 970LB

# LITHIUM BATTERY SPECIFICATIONS

## ESTIMATED BATTERY COMPARISON, PER 100AH BATTERY

### Weight per 100AH Battery:

LIFEP04 Lithium: 34LBS  
Li(NiCoMn)O2 Lithium: 22LBS  
Lead Acid: 55LBS  
Gel: 60LBS

### Estimated Cost per 100AH Battery:

LIFEP04 Lithium: \$800  
Li(NiCoMn)O2 Lithium: \$650  
Lead Acid: \$250  
Gel: \$300

### Estimated Life Cycle at 80% DOD:

LIFEP04 Lithium: 2500  
Li(NiCoMn)O2 Lithium: 1250  
Lead Acid: 300  
Gel: 500

### Long Term Savings

**LIFEP04 Lithium:** Only 3 times the cost of Lead Acid, and offers 8 times the life cycles  
**Li(NiCoMn)O2 Lithium:** 2.5 times the cost of Lead Acid, offers 4 times the life cycles and is smaller and lighter than LIFEP04.

### We Guarantee The Lowest Price on all Lithium Batteries!

#### Lithium Battery Comparison Shopping

[Renogy LFP-12-100 \\$899](#)  
[Battle Born BB10012 \\$949](#)  
[Fuel Zero FZ-12-100 \\$780](#)  
[AIMS LFP12V100AH \\$849](#)  
[Green Life GL100-12V \\$1249](#)

#### Common Applications & Popular Uses

RV and Camper  
Marine / Marine Solar  
Trolling Motor Battery  
Off Grid Solar / Battery Backup  
Electric Scooters / Electric Bikes  
Electric Cars  
Professional Audio Systems / Car Audio

# LITHIUM BATTERY SPECIFICATIONS

## LITHIUM BATTERY INTERNATIONAL WARRANTY

The period of the warranty begins on the date of delivery to the original user and lasts for the period shown. This warranty excludes any and all damages caused during shipping. This warranty includes all international customers, including international freight. Extended warranties are available through your reseller or dealer.

Product	Warranty Period	What's Covered	Freight Paid?
LIFEPO4	Four Years	Parts and Labor	If Defective
Li(NiCoMn)O2	Three Years	Parts and Labor	If Defective

MODEL NO. \_\_\_\_\_  
SERIAL NO. \_\_\_\_\_  
NAME OF ORIGINAL USER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE NUMBER OR EMAIL: \_\_\_\_\_

# LITHIUM BATTERY SPECIFICATIONS

## COMMON APPLICATION SIZING GUIDES

### MARINE TROLLING MOTORS

Marine Trolling Motor Size	86LB	62LB	55LB	46LB	40LB	36LB
Lead Acid Battery Size	12V 100AH					
Run Time on Lead Acid @ 100% Full Speed	1 hour	1.7 hours	1.9 hours	2.5 hours	2.8 hours	3.4 hours
Weight of 100AH Lead Acid Battery	66LBS					
Cost of 100AH Lead Acid Battery	\$250					
Estimated Life	2 Years					
10 Year Cost	\$1,250					
Run Time on 100AH Lithium @ 100% Full Speed	2.3 hours	1.9 hours	2.2 hours	2.7 hours	3.3 hours	3.8 hours
<b>LIFEP04 Lithium</b>						
Weight of LIFEP04 Lithium	33LBS					
Estimated Life of LIFEP04 Lithium	10 Years					
Cost of LIFEP04 Lithium	<a href="#">\$779 (Click Here To Buy Now)</a>					
Final Comparison with LIFEP04 Lithium	38% Lower 10 Year Cost, 1/2 the weight, 20% longer Run Time @ 100%					
<b>Li(NiCoMn)O2 Lithium</b>						
Weight of Li(NiCoMn)O2 Lithium	<b>22 LBS</b>					
Estimated Life of Li(NiCoMn)O2 Lithium	7.5 Years					
Cost of Li(NiCoMn)O2	<a href="#">\$675 (Click Here To Buy Now)</a>					
Final Comparison with Li(NiCoMn)O2	1/3 the weight for special requirements, 20% longer Run Time @ 100%					