



# **SPECIALIZED POWER SYSTEMS**

**1.855.LIFEP04** (1.855.543.3104)

## **INSTRUCTIONS FOR CONNECTING BATTERIES IN PARALELL**

Please Note: It is emphasized that the voltage must be the same between the battery groups before they can be connected in parallel. Before using the battery pack please follow the below recommendations for proper parallel interconnection.

### **1) Battery Appearance / Visual Check**

- a) Carefully open the protective carton/wooden box when batteries received.
- b) Perform a visual check of the batteries for any scratches or impact during shipping.

If any damage appears please document it with dated photos and contact us immediately (email). If everything looks satisfactory please proceed to step #2.

### **2) Identify the Positive and Negative Cables and/or Terminals**

Be sure to correctly identify the positive and negative cable (or terminal) and always be sure to correctly connect the battery with Positive Pole and Negative Pole (usually Red + Black -). Failure to connect the battery correctly will likely cause a short circuit.

### **3) Connection**

- a) Be sure to keep the battery packs charged within 1.0VDC voltage difference when you prepare to connect them in parallel (or series).
- b) The smaller the voltage difference (0.1V-1.0V), the better for connection.

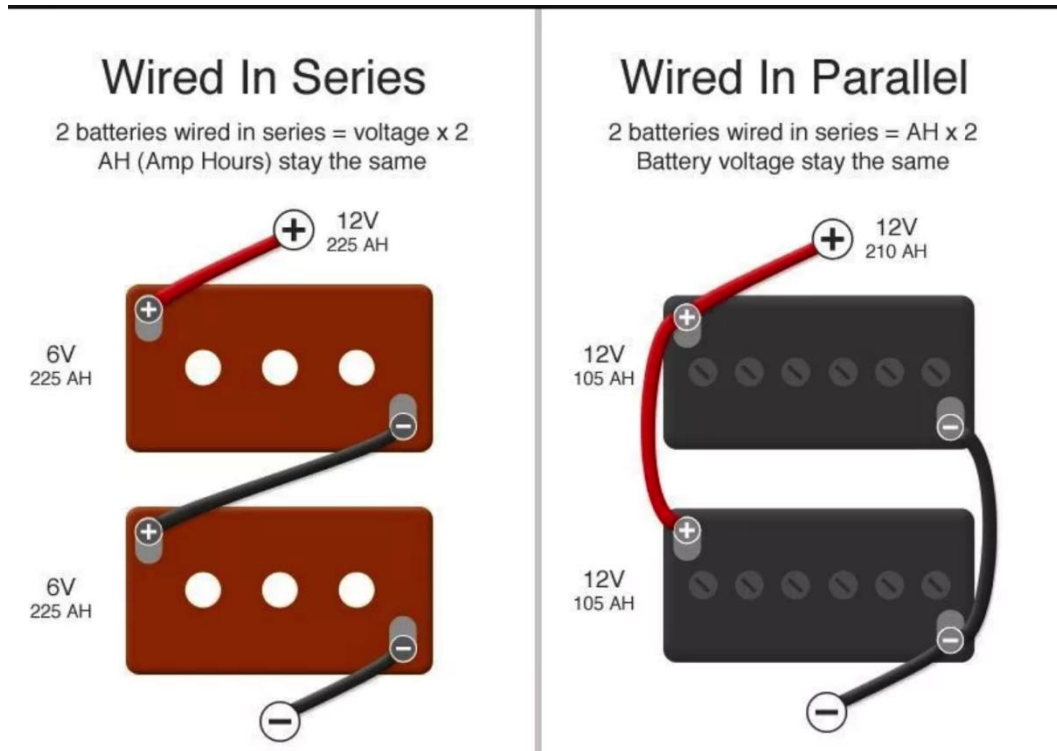
### **4) Battery Use**

- a) Try to never discharge the battery pack to 0%, this will ensure a longer battery life.
- b) Always try to charge the battery to 80% (100% would also be fine) and recharge the battery while they are discharged/used down to no less than 20% power.
- c) Recharge the Battery Packs every 3 months if they are shelved/not used for long time.

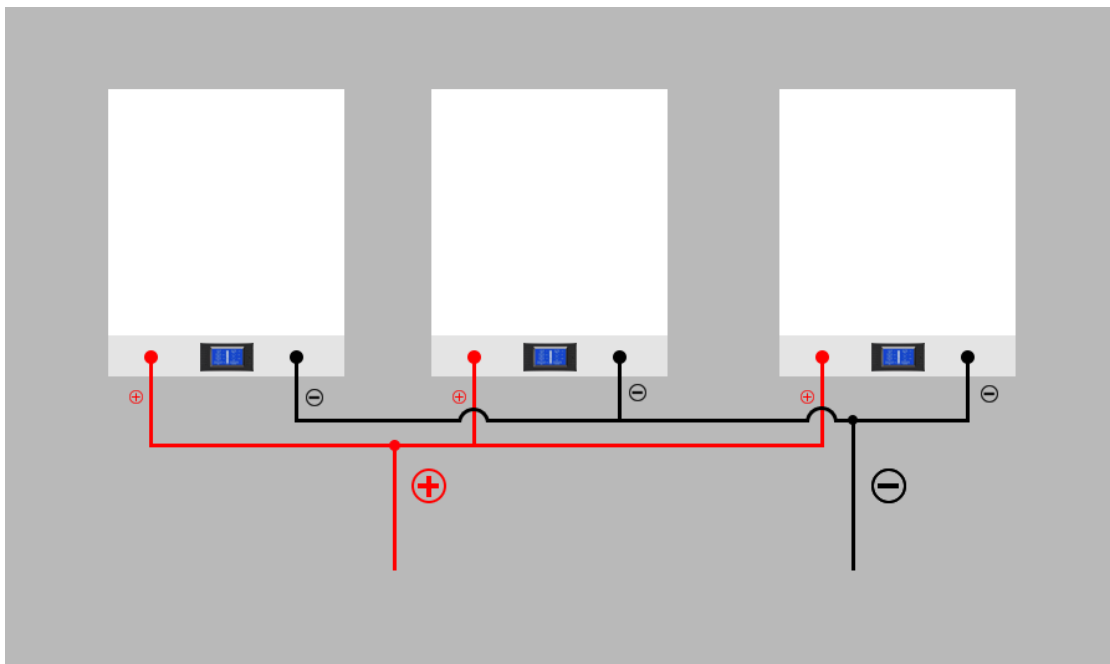
If you have any questions on the above instructions, please contact us at [sales@specializedpower.net](mailto:sales@specializedpower.net)

**Thank You For Your Business, and we wish you many years of reliable use with your new LIFEP04 Lithium Battery. For Instructions, Tech Help and Tips visit: [www.SpecializedPower.net/faq](http://www.SpecializedPower.net/faq)**

## Example of Parallel vs Series Connection



## Example of Proper Parallel Connection!



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# CHARGE PARAMETER SETTINGS / GENERAL INVERTER SETTINGS

## **48 VOLT BATTERIES**

MAX charge voltage:58.4V

Float voltage 55V

Absorb voltage :58.4V

Min / Max volts 40V/58.4

# Time for Absorb charge and/or Ending Amps for Absorb charging.

0.5C charge: about 2.5H, 1C charge: about 1.5H, Nominal Charge (=0.5C rate) cut off current is =2.5A ,Fast Charge (0.5~1C rate)cut off current is =5A

# Absorb end amperage: 0-2A (MAX)

# Minimum soc: 0% (suggest 20%)

# Maximum soc: 100% (suggest 90-100%)

# Rebulk voltage: 58.4V

# Max absorb time: suggest 0.2C to charge , absorb time is about 5-6hours

# Lbco time delay: immediately

# Hbco time delay: immediately

# Low battery restart : 46.4V

# High battery restart : 54.4V

## **24 VOLT BATTERIES**

Max charging is 29.2V

Float voltage is 28.2V

Absorb voltage:29.2V

Min / Max volts: 20V/29.2

# Time for Absorb charge and/or Ending Amps for Absorb charging.

0.5C charge: about 2.5H, 1C charge: about 1.5H, Nominal Charge(=0.5C rate) cut off current is =2.5A ,Fast Charge (0.5~1C rate)cut off current is =5A

# Absorb end amperage: 0-2A (MAX)

# Minimum soc: 0% (suggest 20%)

# Maximum soc: 100% (suggest 90-100%)

# Rebulk voltage: 29.2

# Max Absorb time: suggest 0.2C to charge , absorb time is about 5-6hours

# Lbco time delay: immediately

# Hbco time delay: immediately

# Low battery restart : 23.2

# High battery restart : 27.2

## **12 VOLT BATTERIES**

Max charging is 14.6V

Float voltage is 14V

Absorb voltage :14.6V

Min / Max volts: 10V/14.6V

# Time for Absorb charge and/or Ending Amps for Absorb charging.

0.5C charge: about 2.5H, 1C charge: about 1.5H, Nominal Charge (=0.5C rate) cut off current is =2.5A ,Fast Charge (0.5~1C rate)cut off current is =5A

# Absorb end amperage: 0-2A (MAX)

# Minimum soc: 0% (suggest 20%)

# Maximum soc: 100% (suggest 90-100%)

# Rebulk voltage: 14.6

# Max Absorb time: suggest 0.2C to charge , absorb time is about 5-6hours

# Lbco time delay: immediately

# Hbco time delay: immediately

# Low battery restart : 11.6

# High battery restart : 13.6

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## **WARRANTY AND CLAIMS**

All batteries purchased are guaranteed to be free from defects in material and workmanship. Our Batteries Guarantee Period is described below:

### **4 YEARS**

\* Period of Guarantee from the date of shipment.

#### **PLEASE NOTE:**

1. The battery must be properly installed and maintained in accordance with the Installation and Operating procedure manual.
2. A battery will not be considered defective unless it fails to deliver 80% or less of its quoted capacity during the guarantee period.
3. Each battery must be stored, charged, discharged and stored in accordance with the printed instructions.
4. User agrees that the manufacturer or his agent shall be granted inspection access with reasonable notice.

#### **DISCLAIMER: Warranty will not be provided in event of the following circumstances.**

1. Guarantee & Warranty is void if temperature exceeds the recommended operating temperature range.
2. Guarantee & Warranty is void if the battery becomes unserviceable due to fire, wreckage, freezing, neglect, abuse, or any other act of GOD, use of battery additions, parts of the battery are tampered with or modified, or the battery is serviced by persons not authorized.
3. Guarantee & Warranty is void if the batteries are used in conjunction with other brand batteries.
4. Guarantee & Warranty is void if the batteries damaged by man-made, unnormal use or move cause battery cover and internal failure
5. Guarantee & Warranty is void if the batteries flatulence and swelling by heavy over-charging.
6. Guarantee & Warranty is void if the batteries damaged by other Battery accessories. Such as battery charger.

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### **CLAIMS PROCESS:**

Please contact our warranty department and submit the information as below to us:

1. Invoice number and date
2. Your name/company name
3. Battery model, problem battery quantity
4. A brief description of the battery problem
5. A brief description of how to use the battery. (ex: Exact Application, Exact use of the battery as single cell or as battery bank, if battery bank, what's the voltage and capacity, Discharge current and working time of the battery, Working environment and temperature)
6. Picture or video of the battery
7. The picture when you test the voltage, show the value of voltage
8. The picture of manufacture code (on the top of the cover)
9. The picture of all problem quantity battery
10. Front photo of the battery

### **CLAIMS:**

1. Upon satisfactory proof of claim as determined by us, the part will be repaired or replaced based on the original purchase price and the portion of the warranty term remaining to be applied towards the purchase of a replacement battery (Pro Rate may apply).
2. Under no circumstances can product be returned, credited or exchanged without prior written authority.

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## 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	If Defective
Li(NiCoMn)O2	Three Years	Parts	If Defective

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