

FAQ

+ How long will my battery last?

Several factors that affect battery life including weather, temperature, recharge cycles, depth of discharge (DOD), discharge current, charging current, charging method, vibration and duration of static use can all have dramatic effects on battery life. A properly maintained battery should last 2000+ charge/discharge cycles or 5 times as long as lead-acid use in similar conditions.

+ Can I use lithium ion batteries with other types of batteries?

No. If different types of batteries are used together, or new batteries are used with old ones, the difference in characteristics such as voltage, capacity, and/or internal resistance may cause uneven discharge between the batteries leading to cell damage potentially resultant in fire.

+ Is it okay to use a universal lead acid charger with high enough charging current?

Using a lead acid battery charger is not recommended because they charge at a lower 2.30V to 2.45V per cell in addition to charging in multiple stages with a final float charge setting. This is distinctly different from the Li-Ion 2-Stage charge profile. Mixing of chargers between chemistries will result in insufficient charging and potential damage to the battery.

+ Can I connect two of the same Li-ion batteries together for more voltage/ capacity?

Linking our Li-ion batteries in series or parallel connection is normally NOT RECOMMENDED and may exceed factory recommended usage parameters. It is recommended to purchase a single battery with the requisite capacity and discharge characteristics. Our Battery Management System (BMS) is designed for operations within a singular battery unit and we cannot guarantee operability of multiple batteries connected together regardless of configuration. If, however, multiple batteries are required, please ensure 1) the built-in BMS can support the operation in parallel or series; 2) the batteries are of the same maker/model and from the same batch 3) peak discharge is at <1.0C.

+ My battery will not be charged/discharged?

There are multiple reasons including but not limited to 1) charger failure, 2) external damage to battery has compromised either the cell pack or BMS, 3) battery voltage has fallen to zero in one or more cells, 4) there is a connection error within the pack, 5) a malfunction(s) has occurred within the BMS component(s) or in extreme cases, and 6) extreme high/low temperatures may be inhibiting charging efficiency of the cell pack itself.

+ Can I jump start a dead lithium ion battery?

It is not recommended. Li-ion batteries enter an elevated sensitivity state when empty and the introduction of unmodulated amperage in this state will damage the cell. We highly recommend using our chargers to recharge a fully discharged Li-ion battery as our chargers have the sensing circuitry required to modulate charge current to optimally condition fully discharged batteries.

CONTACT

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WARRANTY

LiFePO4 10-Year, provided, Buyer must install battery within six (6) months after shipment. Aegis Battery shall not be liable for any defects that are caused by neglect, improper installation or original product being altered or modified in any way by an entity other than Aegis Battery. On Standard products 30-day money back guarantee for any initial quality issues originating from Aegis Battery. Only Standard products are eligible for Exchange or Returns subject to Shipping Cost Charges plus a 10% Restock Fee on Returns. All Exchanges or Returns, including warranty requests must have prior approval by Aegis Battery. Upon receipt of products, Aegis Battery has the right to inspect product for Return, Exchange and if defective, that the defect is covered by our limited warranty for repair, replace or prorated credit after 2 years from original purchase.



P/N: ALF-048100A **LiFePO4 (LFP)** LITHIUM IRON PHOSPHATE
SPECIFICATIONS
USER MANUAL
WARRANTY
CONTACT AND SUPPORT

48V

100AH

4800WH

100A MAX DISCHARGE

**Subjects of this content pertains to Aegis Battery LiFePO4 (LFP) for Deep Cycle usage only and are not representative of any other type, chemistry, make, and/or model of battery thereof.*

INTRODUCTION

Thank you for purchasing an Aegis Battery product. It is a wise choice. You are kindly advised to read and familiarize with the contents of this manual prior to use as failure to do so may result in degraded battery characteristics.

The model you have purchased is the **ALF-048100A 48V, 100Ah** rated LiFePO₄ (LFP) Battery featuring enhanced safety, non-toxicity, higher performance and extended service life as compared with traditional lead-type batteries including but not limited to SLA, AGL and GEL. This battery was assembled in our ISO 9001 Certified production facilities and as such you can expect performance and consistency from this product and every other product you may be using or have used.

CONTENTS

- + Aegis Energies (dba: Aegis Battery) LiFePO₄ (LFP) Battery Pack (ALF-048100A)
- + Model Compatible Charger (If an optional Charger was purchased)
- + 1 Copy User Manual



SPECIFICATIONS*

Battery Type	ABS Case
Voltage (V)	48V
Capacity (Ah)	100Ah
Energy Stored (Wh)	4800 Watt-Hours
Weight	88.9 lbs. (40.0kg)
Dimension (L x W x H)	520 mm x 260 mm x 220 mm 20.8 in. x 10.2 in. x 8.6 in.
Normal Charge Voltage	58.4V
Normal Charge Current	20.0 Amps
Normal Battery Cutoff Voltage	36.8V
Nominal Continuous Discharge Current	50.0 Amps
Maximum Continuous Discharge Current	100.0 Amps
Maximum Peak Pulse Discharge Current	200.0 Amps (2 Seconds)
Charge Temperature	0°C to 45°C
Discharge Temperature	-20°C to 60°C
Operating/Storage Humidity	60±25%R.H
Automatic Battery Protection Module/System	Low /Over Voltage Disconnect Cell Balancing Short Circuit Protection Reverse Polarity Protection

(*For full specifications, please visit www.aegisbattery.com)

CHARGING



PRIOR TO INITIAL USE, ENSURE BATTERY HAS TAKEN FULL CHARGE AND IS IN A FULLY CHARGED STATE. OUR BATTERIES MAY NOT BE SHIPPED FULLY CHARGED!



MAKE SURE THE CHARGER'S INDICATOR LIGHT HAS TURNED GREEN AND WAIT FOR 30 MIN. ELAPSE BEFORE UNPLUGGING, CHARGE TIME VARIES FROM MODEL TO MODEL!

When charging your battery, please follow the provided sequence below:

1. Attach Battery Charging Connector to Charger (This will vary depending on your selected model and configuration of battery).
2. Attach Charger to 110VAC Outlet.
3. When Charging you should observe a **RED** LED Indicator: this indicates that the battery is currently in the Constant Current (CC) charging phase.
4. Wait for a **GREEN** LED Indicator: this indicates the battery is currently in the Constant Voltage (CV) charging phase.
5. Wait 30 MINUTES before unplugging the Charger from the 110VAC Outlet **FIRST** and then disconnecting the Battery from the Charger **SECOND**.

DISCHARGING (STANDARD, SERIES/PARALLEL <0.5C DISCHARGE)

1. Make sure your load accepts **48V** nominal voltage.
2. Ensure the connection between the battery and the load can handle the current draw. Please consult references for the appropriate wire type.
3. The maximum continuous discharge current is **100A**. Please make sure your electrical load consumes a current **less than 100A continuous and maximum 4800 watts of power**.
4. The battery outputs steady voltage until little capacity remains, do NOT rely on voltage as an indicator of remaining capacity, Aegis Battery recommends the usage of an In-Line Watt Meter for conveyance of accurate battery discharge telemetry.

Series: Each battery must be charged separately and given a full charge before connecting in series.

Parallel: Only connect batteries with equal state of charge in parallel. Also, measure the internal resistance of each battery and only use batteries with closely matched internal resistance of the same make, model and batch origin. It is highly recommended that resistors be used to achieve equal internal resistance between batteries and to add fuse(s) to the circuit for safety reasons.

SAFETY GUIDELINES

Please adhere to the following Safety Guidelines in addition to all disclosed information when using your battery. Any damage incurred as a result of a failure to adhere to the recommended usage guidelines as collectively disclosed may result in a partial or complete voiding of the warranty as provided upon purchase of this battery product. **Additional Safety Guidelines are as follows.**

1. Do not disassemble and/or attempt self-repair.
2. Do not short circuit positive and negative terminals.
3. Do not use lead acid chargers as they will cause damage to internal hardware.
4. Do not dispose in normal refuse bin, recycle this product only at designated facilities.
5. For long term storage, fully charge the battery and then discharge to 50% of the full capacity.
6. Do not leave the battery unattended for more than 6 months or in the presence of children. It is recommended to charge the battery every three months if it is not used.
7. Do not use the battery in or expose the battery to extreme temperatures.

