



# STEALTH ENERGY

StealthEnergyUSA.com | 440.248.5858

## CAUTION! PLEASE READ!



**Proper Charging is Crucial!**  
**Charge before initial use!**

### Be sure to read the Instruction Sheet for full instructions.

Proper Charging is crucial to the life of your Stealth Energy battery. It is very important that the temperature of the battery remains cool with respect to the charge voltage.



### Do Not Over-tighten Battery Terminals!

Whether using the automotive post adaptors, bolts or screws, the tightening torque should never exceed 8 ft-lbs max on any Stealth Energy battery!

### Introduction

Congratulations on your purchase of our lithium battery. You have in your hand the cutting-edge lithium battery made for pulse discharge loads.

Lithium cells hold, in general terms, three times the energy density of lead acid batteries. However, they need careful management to be safe and provide a long service life. Fundamentally, they have serious risks associated with them and these must be understood to avoid danger, loss of property, and personal injury.

To get the most out of your new battery, specific care and procedures are required. Read this sheet carefully so that you fully understand what your new lithium battery can and cannot do.

### Technical Assistance

Our Customer Service Department is eager to help you with any questions or issues you may have and are available from 10:00AM to 6:00PM, Monday thru Friday at 440-248-5858.

Be sure to check out our website for additional technical and product information.

[www.americanbassusa.com](http://www.americanbassusa.com)

440-248-5858

### The Quick List

- READ the battery label and do not exceed any of the ratings.
- Do not over discharge this battery. Terminal voltage should at all times remain above 12V. Disconnect when not in use.
- Make sure you have the correct charger. Lithium batteries are voltage sensitive so pay close attention to the max voltage rating.
- Do not use an undersized battery for the job especially in applications under 32oF. If the terminal voltage under load drops below 12V, the battery is too small for the job. Stop and resolve this issue before continuing.
- Pulse loads by their very nature are a pseudo short circuit of the battery. This is fundamentally destructive to the battery so each battery's State of Health should be regularly checked.

### TEMPERATURE SPECIFICATIONS

Nominal Operating Temp.	770F (250C)
Charge Temp. Range	320F - 1040F (00C - 400C)
Discharge Temp. Range	50F - 1220F (-150C - 500C)A

### Installation

Please mount the Lithium battery upright. Do not crush the battery with battery retention systems. The threads are M6-1.0. Optional mounting kits and terminals are available. Observe the maximum torque ratings on the battery label.

- Be extremely careful when making connections. Remember there is no low voltage disconnect, reverse polarity, or short circuit protection on the main terminals of this battery. Further the power output of a lithium battery is ten times that of typical lead acid batteries. Short circuits will flow huge amounts of current instantly with the ability to melt metal.
- Do not expose to temperatures above 60oC (140oF). Avoid mounting this battery in the engine compartment if at all possible. Elevated temperatures accelerate the aging process of most battery types and lithium batteries are especially sensitive to high temperatures. If it must be in the engine compartment, use a heat shield and duct cool air around the battery.
- Parallel connection of this lithium battery is not recommended. By its very nature this connection method cannot be considered 100% safe. If parallel connection is unavoidable, fuses, switches, or fusible links must be used to control excessive cross current (current flowing from one battery to the adjacent battery.)
- It is mandatory to use batteries that possess the same voltage and capacity, and belong to the same model. Ensure that each battery installed originates from the same model produced by Stealth Energy and American Bass. Do not parallel connect lithium batteries with any other battery type including any lead acid battery (AGM, gel, or flooded).
- To maintain a uniform function, check that every battery possesses identical characteristics, including state of charge and voltage. The mixing of battery chemistries when connected in parallel is strictly prohibited. In situations where parallel connection is absolutely necessary, please be advised that this action may result in the voiding of the product warranty.
- Never connect the batteries in series under any circumstances!
- Open circuit voltage should be 16V when fully charged after resting for 8 hours. If it is less than this after resting for 8 hours, the battery should be taken out of service and must be checked for capacity, cell balance, and State of Health before resuming operation.

### Charging

Typically the battery will ship at less than 100% State of Charge (SOC) Please charge your new battery immediately upon receipt. For charging your 12V Lithium battery we recommend a battery charger specifically designed for lithium batteries. selecting a professional Lithium Titanate battery charger. Ensure that the charger is set to a charging voltage of 16.8V and operates in a Constant Current/ Constant Voltage (CC/CV) charging mode.

For optimal performance and reliability, we recommend utilizing chargers manufactured by industry leaders such as Stealth Energy or American Bass.

Lithium batteries are by their very nature voltage sensitive. Further, the lithium battery is the most vulnerable to damage while charging. It is important that the charging process of the battery be fully understood and carefully controlled.



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## Charging (continued)

- DO NOT use a battery charger designed for "Flooded" or "Maintenance Free" batteries.
- DO NOT use a battery charger with a "de-sulfation mode" or "float mode".
- Remove the battery charger once the battery is full meaning 100% State of Charge. Unlike lead acid batteries, over charging lithium batteries DOES NOT help them nor cause them to store more power. Instead, it harms them and should be strictly avoided. Lithium cells are in a state of stress when at 100% SoC and beyond. Continuous charging must be avoided. Note from a practical point of view, the batteries can be left on a battery charger overnight but not more than 8 hours. If the system is not full in 8 hours, call tech support.

Lithium batteries do not have a "memory effect" therefore they do not have to be empty to benefit from re-charging. Simply recharge them when convenient and avoid overcharging. In general, float charging or battery maintaining should be avoided.

## Usage

In general the lithium battery will outperform the lead acid battery it is replacing. If it does not, chances are you have a battery that is too small for the job. Stop now, take it out and return it for the correctly sized model. In general pulling the battery's terminal voltage below 12V. for even the shortest amount of time is asking for a premature failure. This must be avoided.

Lithium batteries have a relatively flat discharge curve when compared to a lead acid battery. The good news is that the average terminal voltage throughout discharge will be 14V. Unfortunately, this can make judging the state of charge difficult when the battery is nearly empty. Lithium batteries at a low state of charge will still show a relatively high voltage. It is important to get to know the limits of your battery because over discharge (discharge below 12V) must be strictly avoided.

Avoid "parasite drain" which includes small energy drain from small LEDs, digital clock, etc. In time, they can drain the battery below the threshold, and damage the cells.

## Warnings

### **TO REDUCE THE RISK OF FIRE OR PERSONAL INJURY INCLUDING BURNS:**

- Do not over charge the battery (meaning exceed the maximum voltage OR amperage and remove the charger once the battery is at 100% SOC.)
- Parallel connection of these lithium batteries is not recommended. By its very nature it cannot be considered 100% safe. If parallel connection is unavoidable, fuses, switches, or fusible links must be used to control excessive cross current (current flowing from one battery to the adjacent battery.) Do not parallel connect lithium with any other battery type including any lead acid battery (AGM, gel, or flooded)
- Never connect the batteries in series!
- Do not short circuit the terminals.
- Use with alternators requires that the charging voltage be limited to 16.8V or less.
- Do not charge this battery if the terminal voltage is below 10V. Call Stealth Energy for assistance before proceeding.

## Warnings (continued)

- Avoid high temperature. Never operate the battery in environments above 140°F or if the battery itself exceeds 140°F at any point.
- Lithium batteries contain flammable gases. Have a plan in place to respond to possible fire. Installation inside of metal enclosures is recommended in the event of fire.
- Disconnect the battery in total before welding anywhere on the vehicle. Do not submerge in water. This battery is not waterproof.
- Do not crush, puncture, or dispose in fire or water.
- Do not attempt to open, disassemble, or service the battery pack.
- Handle the battery pack with care, avoiding physical damages to the battery pack.

## Warranty

Stealth Energy warrants that this product will be free from defects in materials and workmanship under normal use and service, subject to the express terms, remedies, exclusions, conditions, limitations, and disclaimers set forth below.

### **Warranty Term and Remedies.**

For lithium batteries, the limited warranty provided hereunder shall extend for one (1) year from the date of the product's purchase. Should any covered defect in materials or workmanship be discovered during the limited warranty period, Stealth Energy will repair or replace the product free of charge.

### **The following damage is specifically excluded:**

- Over discharge below 12V open circuit voltage. Overcharge above 16.8V
- Capacity is not guaranteed (ie. if the battery still accepts energy and discharges energy, it is considered "good")
- Internal resistance is not guaranteed. (ie. if the battery was at 4miliΩ new and now is 6, 8, 10 or greater miliΩ internal resistance, it is considered "good")
- Water damage and resulting internal corrosion.
- Physical damaged such as case cracks from drops, impacts, or crushing it with a battery mount.

### **More specifically this text applies:**

This limited warranty shall not apply to damage to or failure of a product that results from: (i) any negligence other than by Stealth Energy; (ii) accident (including, but not limited to, damage during shipment and natural disasters); (iii) other circumstances beyond Stealth Energy's control (including, but not limited to, normal capacity loss or increased resistance due to product aging); (iv) improper installation, operation (including, but not limited to, abnormal or non-consumer use or use in an environment outside the recommended temperature range), maintenance, or storage (including, but not limited to, storage in an overly discharged state); or (v) any other damage directly or indirectly caused by the product's owner, other third parties, or other products (including, but not limited to, misuse, abuse, overcharging, over-discharging, exceeding of the product's limitations set forth in the product's specification sheet or label, neglect, physical damages caused by accidents or crashes, alterations, or connection to poorly-grounded battery chargers). This limited warranty shall also not apply to defects or non-conformities due to the manufacturing process discovered after the expiration of the applicable warranty period. This warranty does not extend to any damage caused by affixing any parts or equipment not purchased from Stealth Energy to the product and no warranties, either express or implied, are made with respect to equipment or products not produced by Stealth Energy. If the product is relocated outside of the continental United States during the applicable warranty period, the product's owner will be responsible for any additional charges (including, but not limited to, shipping and other related charges and expenses) incurred during the warranty process as a result of such relocation.