

ABYSS BATTERY

Instruction Manual



DISCLAIMER

Thanks for choosing our lithium-ion batteries, please read this User Manual carefully before using the battery.

We do not take the responsibility for losses or accidents resulting from improper use, or facts identified as the following:

1. Not use reliable BMS or protective plate when doing charging or discharging test, resulting in overcharge or over-discharge for part of the whole battery group; BMS
2. Batteries are charged reversely due to the wrong connection, resulting in part or the whole battery group retirement in advance.
3. Not control the battery group discharging effectively, resulting in over-discharging part or the whole battery group.
4. Improper selection of charger, adapter, circuit cable, connectors, terminals, and other electrical components without vendor permission, resulting in fire due to line overheating and spontaneous combustion.
5. There are no appropriate high-voltage safety protection devices in the main power circuit, resulting in the battery pack short-circuit or equipment damage due to the circuit aging, damage, etc.
6. The cable terminals of the main power circuit are not well connected to the bus bar and battery terminals, resulting in attenuation of battery life, and even accidents for loose connecting bolts and exothermic joints.
7. Infrequent checks on the battery condition and maintenance, resulting in accidents for not discovering and excluding hidden dangers in time.

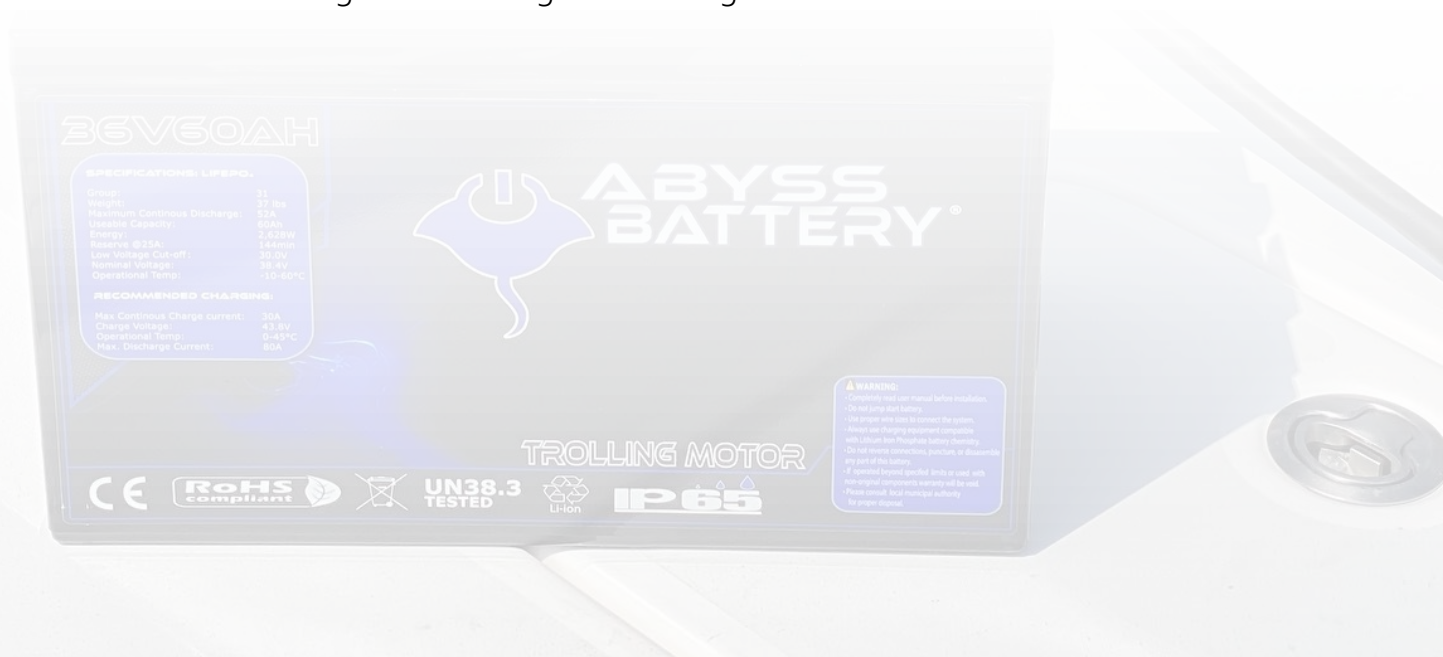
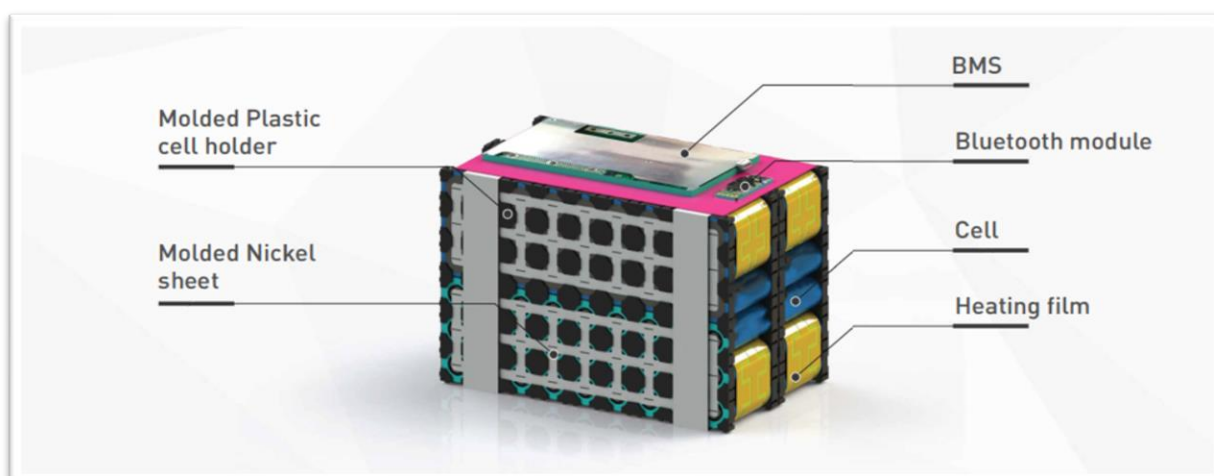


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PRODUCT OVERVIEW:



PACKAGE INCLUDES:

- 1 x Lithium-Ion Battery
- 2 x M8 Stainless Terminal Bolts
- 2 x Stainless lock nuts & washers
- 1 x Abyss Battery Quick Start Guide



TECHNICAL SPECIFICATIONS:

Electrical Specifications	Model				
	Nominal Voltage				
	Nominal Capacity				
	Parallel Connection				
	Serial Connection				
	BMS				
	Bluetooth				
	Heat				
	Circuit Protection				
	Cycle Life				
	Self-Discharge				
	Charge Efficiency				
	Discharge Efficiency				
Charge Specifications	Charge Voltage				
	Standard Current				
	Fast Current				
Discharge Specifications	Standard Current				
	Max. Con. Current				
	Peak Current				
	Cut-off Voltage				
Mechanical Specifications	Dimensions (mm)				
	Approx. Weight (KG)				
	Terminal Type				
	Case Color/material				
	IP Rating				
	Cell Type				
	Cell holder				
Temperature Specifications	Charge Temp				
	Discharge Temp				
	Storage Term				

INTRODUCTION:

Not All Lithium Batteries Are Built Equal or Perform the Same. With pre-programmed intelligence, Abyss Batteries can better understand how you use your boat and trolling motor during each charge cycle. Our battery's ability to learn and "adapt" makes it stand out as a superior option for lithium-ion technology.

There is no technical way to compare against other brands of batteries on the market today with similar specifications. Abyss battery design offers more capacity and amp-hours in a smaller size while also maintaining stability throughout discharge cycles -all without sacrificing performance!



KEY BENEFITS:

- **Higher qualified cylindrical cells:**

UL1642, IEC62619, and IEC62133 are listed with a cycle life of more than 3000times and excellent consistency.

- **Bluetooth Integration:**

Monitor battery status (charge, discharge, current, temperature, cycle life, and so on) and manage/change the data for different applications.

- **Heating Functions:**

Uniform internal heating is an important feature of our cold-weather performance batteries, as many external heating blanket options currently available cannot sense the internal temperature of the cells and may not be completely effective at heating the battery throughout. The system features proprietary technology that draws power from the charger itself, requiring no additional components. The entire process of heating and charging is completely seamless. Simply plug the battery into the regular lithium charger and the internal heating and monitoring system takes care of the rest.

- **More Stable and Firm Internal Structure;**

Our cell holder design construction protects and separates each cell within the battery to avoid any circuit short risk caused by vibration or impact or over current, while also improving heat dissipation.

- **Smaller size + less weight:**

The size of our battery is just 3/4 size of the standard 12V 100Ah battery from other Lithium Battery Companies.

FEATURES:

- **Cell matching:**

Strict cell matching standard, the difference of Internal resistance is 1mΩ and voltage is 5mV.

- **Automatic cell welding:**

Cells are assembled with Automatic welding equipment to ensure quality, reliability, and consistency.

- **100% Cycle test:**

All battery packs are 100% cycle tested (Fully -Discharged- Fully Charged - Fully Discharged - 60% Charged) before package and all test reports are stored.

- **Unique tracking number:**

All battery packs are lasered with a unique serial number on the case side for quality tracking.



WHERE TO USE:

- RV
- Marine
- Golf cart
- Cleaning
- Light EV
- Energy storage
- Robotics
- Lighting

OPERATION METHOD:

a. General instructions

Read the following instructions completely before installation. The information contained in this manual will assist you in properly installing a functioning operating system, proper disposal, and avoiding serious injury or harm.

Caution:

LiFePO4 batteries if punctured may emit a hazardous electric vapor.

Toxic Vapor:

It may be harmful to inhale and cause inflammation of the lungs.

Danger:

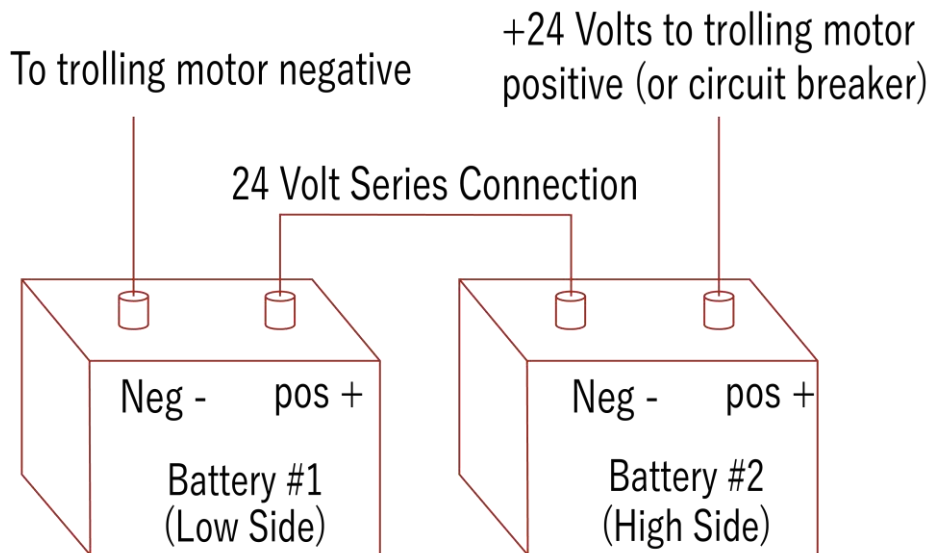
Short Circuitry



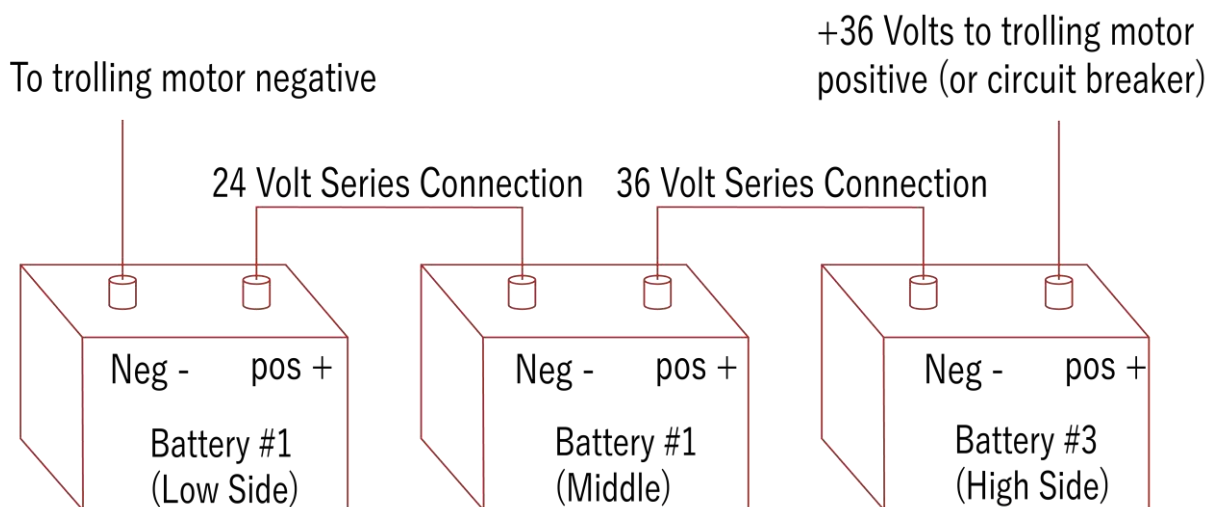
b. Battery Installation

Series Battery Connections

24V connection with two 12V batteries (Figure 1.)



36V connection with three 12V batteries (Figure 2.)



c. Charging

- Only use specified or allowed charging voltage and current by a battery standard charger or adapter.
- Charge a battery in time when it is discharged out of power, this can prolong the life cycles of the battery.
- DO NOT leave your battery charging overnight. Our batteries only take two hours to fully charge and are not necessary.
- Battery may swell and damage over time.

TRANSPORTATION REQUIREMENTS:

1. During the transportation process, batteries should not be sun-exposed and rained. The recommended state of charge during transport is about 30%.
2. Batteries should be stacked neatly, orderly, compactly and reasonably, safely and reliably. Always keep the battery poles upward to prevent damage caused by shaking during transport.
3. During the loading and unloading process of the battery, pay attention to moving and putting down lightly, throwing, rolling, crushing, and mixing with other dangerous goods are prohibited.
4. Minimize the number of transit transport, machinery operation should be used during shipping and handling to avoid the rough handling operations.
5. During the process of transport and use, overly strong impact and extrusion by external should be avoided, to prevent battery casing broken or internal structural damage.
6. Recommended transportation environment is no higher than 60.



STORAGE & MAINTENANCE:

1. Do not leave batteries unused for extended periods, either in the product or in storage. When a battery has been unused for 6 months, check the charge status and charge-discharge batteries for a full cycle or dispose of the battery as appropriate.
2. If batteries are not in use for a time, they are recommended to store in a dry, clean, ventilated, and far away from fire source warehouse under the temperature of 20, batteries that are not used for a long time, pack and store the battery at 40% state of charge.
3. In general, stock batteries directly laid on the ground should be equipped with a layer of insulating mulch under the battery, and dust covers on them while making warning signs.
4. Stock Battery should not be placed upside down, and be prevented from mechanical shock or stress, non-battery exposure, and rain, meanwhile not allowed to be stored together with inflammable and explosive materials, which are easy to cause combustion and explosion.
5. Conduct a full charge-discharge test inventory every six months for inventory batteries at a charge and discharge rate of 0.2C, and make detailed records, or develop a tracking record of voltage, resistance for inventory batteries, check the stock battery voltage, resistance every three months and make detailed records;
6. Battery cartons should not be stacked too high, which is to prevent the bottom of the battery cartons from deformation or leakage.



SAFETY & PRECAUTIONS:

1. When a battery is using in outdoor for a long-time, it should be water-proof, dust-proof, and sunshine-proof, by IP65 standard.
2. Do not use a battery when it is found overheat ($>55^{\circ}\text{C}$), smells, deformation, or other reaction during using, charging, or storage period.
3. Do not close to flammable and explosive materials during charging or storage.
4. Do not reverse the installation when the load in equipment and do not reverse the positive and negative pole of a battery when using.
5. Do not disassemble, crush, or puncture a battery.
6. Do not short the external contacts on a battery.
7. Do not heat a battery or dispose of a battery in fire or water.
8. Do not expose a battery directly to temperatures above 60°C (140°F).
9. Keep the battery away from children.
10. Avoid exposing the battery to excessive shock or vibration
11. Do not use a severe scar or deformed or damaged battery.
12. If a battery pack has leaking fluids, do not touch any fluids. Dispose of a leaking battery pack (see Disposal and Recycling in this document).
13. In case of eye contact with fluid, do not rub your eyes. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the fluid remains. Seek medical attention.
14. If inhalation of smoke: when there is smoke, use protective measures (such as covering the nose and mouth with a wet towel or wearing a professional gas mask) to prevent inhalation of fumes. As smoke and other harmful gases may cause damage to the respiratory system, give oxygen if necessary. Go for medical treatment in severe cases.
15. Do not power on electronics or discharge the battery if any type of serious impact from the force, or puncture has caused damage or has compromised the lithium pack.
16. If a battery pack has leaking fluids, do not touch any fluids.
17. DO NOT disassemble. The warranty will be void. No Exception.
18. DO NOT operate electronics or batteries if there is a loose connection or when poor wire connections are present.
19. DO NOT use or operate the battery outside of its specified limits.

WARRANTY:

Thank you for taking interest in the products we offer at Abyss Battery. This Limited Warranty applies to physical goods, and only physical goods purchased from Abyss Battery. Unlike other Lithium battery companies, Abyss Battery has additional support through the purchase of our Extended Warranty program.

Manufacturer's Limited Warranty

Warranty Coverage	3-Year Free Replacement	After 3 years, 35% Off a New Replacement up to 10-Years
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Extended Warranty

Extended Coverage	5-Year Free Replacement	After 5 years, 50% off a new Replacement for Life
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Enjoy 5 years of peace of mind when you buy Recharge+ for your Battery. Recharge+ for Abyss Battery® Extends your Free 3-Year Replacement Coverage by 2+ additional years from your purchase. In addition to a free battery replacement, you'll get 24/7 priority access to our Battery experts by chat or phone.

What Does Limited Warranty Cover?

- We guarantee that every battery sold by us or any of our authorized dealers and OEM distributors is defect-free from the date of purchase.
- Our Li-ion batteries are designed to be a drop-in replacement for lead-acid and AGM battery applications.
- This Limited Warranty covers any defects in materials and workmanship under normal use during the Warranty Period.
- During the Warranty Period, Abyss Battery will repair or replace, at no charge, products or parts of a product that proves defective because of improper workmanship, under normal use and maintenance.

This Limited Warranty does not cover any problem that is caused by:

- Conditions, malfunctions, or damage not resulting from defects in material or workmanship.
- Damages from shipping.
- Damages caused by abuse/neglect (DO NOT JUMP START!)
- Loose terminal bolts.
- Corroded hardware.
- Failure to improperly install the battery.
- Tampering or removal of manufacturer codes.
- Properly charging and maintaining the battery.
- Breakage from the collision.
- Improper storage, which includes damage from water, extreme heat, or freezing temperatures.
- All bolts must be tightened with a torque wrench and NOT by hand to avoid overheating caused by a loose connection.
- Use approved and authorized chargers only.

DISPOSAL AND RECYCLING:

- Lithium-Ion batteries are subject to disposal and recycling regulations that vary by country and region. Always check and follow your applicable y regulations before disposing of any battery.
- Contact Rechargeable Battery Recycling Corporation (www.rbrc.org) for the U.S.A. and Canada, or your local battery recycling organization.
- Many countries prohibit the disposal of waste electronic equipment in standard waste receptacles.
- Place only discharged batteries in a battery collection container. Use electrical tape or other approved covering over the battery connection points to prevent short circuits.

CERTIFICATIONS:

- UL 1642 (Cell)
- IEC62133 (Cell)
- IEC62619 (Cell)
- CE (Pack)
- UN38.3 (Cell/ Pack)
- ROHS (Cell)



For more information, please click the link below;

<https://www.abysbattery.com/pages/un-dot-38-3-lithium-battery-safety-testing>



**ABYSS
BATTERY**

POWER YOUR PURSUIT.