



## 12V Engine Start Battery w/NeverDie® User Manual



**Voltage: 12.8V (Nominal), 10.8V (Min.), 14.4V (Max.)**

- ✓ Discharge Rate: 80A Max. Continuous for BMS Model 4M, and 100 Amps for BMS Model 8M (Contact Lithionics Battery to Confirm Your BMS Installed)
- ✓ Charge Rates:  
 12V or GT12V Series: 1C (Max) or 1 Times Amp Hours) Example: a 12V40A...MAX.  
 Charge Rate= 1C X 40 = 40 Amps  
 GT Series = 2C or 2 Times Amp Hour Capacity

**Operating Conditions: Do Not Operate Under-The-Hood Until You Confirm the Temperature and Air-Flow Characteristics of Your Vehicle (See Section 2.3)**

- ✓ Operating Temperature Range: 12V and GT12V Series: 25F to 125F  
 GT Series: 15F to 125F
- ✓ Storage Temperature Range: -4F to 95F
- ✓ Water Resistant
- ✓ **REMOVE THE BATTERY FROM THE PACKAGING AND IMMEDIATELY USE A VOLT METER TO ENSURE THE BATTERY IS OFF BEFORE ATTEMPTING ANY INSTALLATION. AFTER INSTALLATION SIMPLY TURN THE BATTERY ON.**

# Index

## 1. Product Warranty

- 1.1 - Product Warranty
- 1.2 - Warranty Registration
- 1.3 - Terms and Conditions

## 2. Operating Environment

- 2.1 - UNDOT Specification
- 2.2 - Waterproof Specification
- 2.3 - Temperature Specification

## 3. NeverDIE Battery Operation

- 3.1 - Connecting Your NeverDIE Battery
- 3.2 – Terminal Tightening Torque
- 3.3 – NeverDIE Pushbutton operation
- 3.4 - Optional NeverDIE Wireless Remote Operation

## 4. Charging Your Battery

- 4.1 - Supported Chargers
- 4.2 - Connecting Your Battery

## 5. Storing Your Battery

## 6. Troubleshooting

# 1. Product Warranty

## 1.1 - Product Warranty:

Warranty: See WARRANTY STATEMENTS Document, Revision July 2013.

## 1.2 - Warranty Registration:

To ACTIVATE your product warranty please visit: [www.LithionicsBattery.com](http://www.LithionicsBattery.com) and click the red "WARRANTY" tab at the top, then fill out the warranty submission form and click "SUBMIT".

**The NeverDie® Battery Warranty Does Not Cover Damage to the Battery By Short Circuiting the Terminals. Be sure the battery is OFF, using a volt meter before installation.**

# 2. Operating Environment

## 2.1 - UNDOT Specification:

All Lithionics Batteries are tested to comply with United Nations DOT Manual 38.3 requirements. Please contact Lithionics Battery for a copy of this safety testing protocol. UN DOT testing ensures battery safety during commercial shipping and transportation operations. It represents the most severe testing available. Passing this testing does not ensure that the Battery will continuously perform to these test standards in your application.

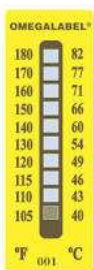
***THIS TEST DOES NOT CERTIFY THAT YOUR BATTERIES WILL ENDURE IN THIS ENVIRONMENT...IT IS A TEST OF SAFETY TO SIMULATE CRASH CONDITIONS OR SHIPPING DAMAGE***

## 2.2 - Water/Moisture Specification:

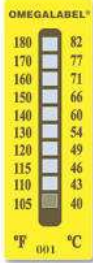
All Lithionics Batteries are water resistant, not waterproof. This means the battery is protected against falling water when tilted up to 15 degrees in each direction from normal upright operating position. Do NOT submerge the battery as it will cause permanent damage.

## 2.3- Temperature Specification:

See Page 1 of this Document for Operation Temperature Ranges Allowed



You will notice the yellow label pictured at left is on your battery. This will allow you to understand if your battery is too close to an external heat source and whether that temperature is too high for the battery. Ideally, the max. temperature reading should be 120 degrees F. You will know that because the bottom 4 silver squares will go black. If you approach 130 degrees F, that will adversely affect the battery over time. At 140 F, your warranty is void. If you see the temperature rising, contact us and we can provide thermal management solutions.



Many vehicles are designed to ensure proper air-flow over the battery and have an insulated battery box to ensure battery life. It is the responsibility of the user to ensure the suitability of a lithium ion battery in your installation. Contact Lithionics Battery to obtain a free temperature sensor shown at left to install in your current vehicle to measure actual temperatures prior to purchasing a battery. Warranties do not cover over-heated batteries.

## 3. NeverDIE Battery Operation

### 3.1 - Connecting Your NeverDIE Battery: **TURN IT OFF FIRST!**

**Use a Volt Meter to Ensure Battery is OFF at Zero Volts Before Connecting the Battery to the Vehicle to a PREVENT SHORT CIRCUIT Which Can Damage the NeverDie® Electronics**

- Identify the positive and negative terminals. As pictured below, note the difference between both terminals. The right terminal in this example has a stripe, this indicates the positive connection.





- When opening your package, you will find that each terminal has a black and a red cap. The red indicates positive, and black indicates the negative output. Lithionics Battery caps are placed like below:



- Near your battery terminals, locate the red positive symbol like this: +  
This symbol will always be found beside or at the bottom of the positive terminal.

### **3.2 - Tightening Torque:**

All main battery terminal connections must be tightened to a max torque value as indicated below. **Do not exceed this value.** Brass/copper conductors have a much lower shear strength than steel.

	<b>M6 Modular Terminals</b>	<b>60 inch pounds/7 N-m</b>
	<b>5/16 Bolt SAE Style Terminals</b>	<b>100 inch pounds/11 N-m (Use a Crescent Wrench to stabilize the <b>base</b> of the Terminal)</b>

### **3.3 - Push Button Operation:** Turn the Battery “On” After Installation!

On top of your battery is EITHER a low-profile stainless-steel pushbutton momentary switch OR a red push button which operates the batteries output. It operates simply by **pressing once** OR by **pressing and holding the button**.

To turn your battery ON: Press and hold the button for 1 second and release.

To turn your battery OFF: Press and hold the button for 4 seconds and release.

### **3.4 - Optional Wireless Remote Operation:**

With the optional Wireless Remote you can turn the battery on/off while being up to 100 feet away.

<b><u>To turn battery output ON</u></b>	<b><u>To turn battery output OFF</u></b>
Press the UNLOCK symbol on the remote.	Press the LOCK symbol on the remote.



**If you have a Wireless Remote Control, Maintenance Charging will be Required Using a Lithionics Battery CHARGER as the Wireless Remote Control will Draw Power from the Battery During Periods of Non-Use. Charge Your Battery Every 30 Days!**

## **4. Charging Your Battery**

### **4.1 - Supported chargers:**

Lithionics Battery 12V engine start batteries can be charged with either a 12V rated alternator in proper working order or a Lithionics Battery LiFePO4 Charger. Failure to do so *will* void the battery's warranty. Other chargers are factory approved but you must report that charger to the factory in an email request to your sales representative or [info@lithionicsbattery.com](mailto:info@lithionicsbattery.com) and obtain formal approval.

### **4.2 - Connecting Your Battery to a Charger:**

#### **Step 1.**

Verify that the battery output is ON. This can be done by checking that the red pushbutton LED is lit or by checking that battery voltage is present with a multi-meter. Pressing the ON-OFF button for 1 full second will always turn the battery ON whether it is ON or OFF.

## **Step 2.**

1<sup>st</sup>: Connect the RED (positive) charger lead to the positive terminal on the battery.

2<sup>nd</sup>: Connect the BLACK (Negative) charger lead to the negative terminal on the battery.

## **Step 3.**

Plug the charger into a wall outlet and turn on the charger, your battery is now charging!

**DO NOT USE A SOLAR CHARGER OR SOLAR CHARGE CONTROLLER ON ANY LITHIONICS ENGINE STARTING BATTERIES. THIS WILL VOID YOUR WARRANTY. OUR ENGINE STARTING BATTERIES ARE DESIGNED TO ABSORB THE ENERGY OF A FAILED ALTERNATOR TO ENSURE VEHICLE SAFETY AND PREVENT VEHICLE DAMAGE. THIS MEANS THE ENGINE STARTING BMS VERSION DOES PERMIT OVER-CHARGING VOLTAGES TO ENTER THE BATTERIES WHICH ARE FIRE-PROOFED. SOLAR CHARGE CONTROLLERS ARE MUCH MORE PRONE TO FAILURE THAN ALTERNATORS AND THEREFORE YOU MAY LOSE YOUR INVESTMENT OF YOUR BATTERY.**

# **5. Storing Your Battery**

**Hint: It's Not a Nuclear Reactor!**

**To properly store your battery perform the following: CHARGE IT UP THEN TURN IT OFF. NeverDie® means it will hold a charge for 3 months to 6 months if Properly Charged Before Storage. NeverDie® Means the Battery Will Enter Sleep Mode with a Power Reserve But Only for a Limited Time Before Recharging is Required.**

1. Fully charge your battery.
2. Press the NeverDIE switch for 5 FULL SECONDS and confirm the battery is OFF.

3. Place the battery in a cool, dry environment. Ideally 70-80F (21-26C).

Example: a battery installed into a JetSki, Classic Car or Boat planned for a 6 month storage...filling the battery UP and turning it OFF will enable this storage period.

- Upon completion of long term storage, press the button for 1 second and attempt an engine start within 10 seconds. If the battery fails to start the engine to initiate alternator recharging, simply attach a low-cost Lithionics charger for 30 to 60 minutes.

## 6. Troubleshooting

<u>Symptom</u>	<u>Cause</u>	<u>Remedy</u>
No voltage	<ul style="list-style-type: none"><li>A. Battery output is off.</li><li>B. Battery is not charged.</li><li>C. Battery is overheated.</li><li>D. Battery was short circuited.</li></ul>	<ul style="list-style-type: none"><li>A. Turn battery on. See section 3.3.</li><li>B. Charge battery. See section 4.</li><li>C. Remove battery from heat source or lessen load on battery (max 80A continuous). See section 2.3.</li><li>D. In the event battery has been short circuited it will auto power off. Remove battery from short circuit load and turn battery on. See section 3.3.</li></ul>
Not charging	<ul style="list-style-type: none"><li>A. Battery is off.</li><li>B. Wrong charger connected.</li></ul>	<ul style="list-style-type: none"><li>A. Turn battery on. See section 3.3.</li><li>B. Verify the correct charger is applied. See section 4.</li></ul>
Poor performance	<ul style="list-style-type: none"><li>A. Battery is not charged.</li><li>B. Wrong application.</li></ul>	<ul style="list-style-type: none"><li>A. Charge battery. See section 4.</li><li>B. See front page for operating specifications.</li></ul>