



**WARNING: Read this document before charging or using battery. Failure to follow the instructions below may result in property damage, personal injury and/or loss of life.**

### **IMPORTANT SAFETY INSTRUCTIONS AND WARNINGS**

#### **General Guidelines and Warnings**

You must read these safety instructions and warnings carefully before charging or using Lithium Polymer (Li-Po, Li-Poly) battery from Fullymax, and keep this document safely for future reference. With any resale, loan or lease of the battery, these safety instructions and warnings must be handed to the new battery user. While Fullymax believes that the use of Li-Po batteries in radio-controlled models is practical as well as desirable for the modeller, there are certain dangers associated with such use. It is important to follow these instructions to limit those dangers. Li-Po batteries, especially for the RC hobby store a large amount of energy and should be treated with extreme caution. Additionally, it has been determined that Li-Po batteries, when not properly used, may burst and catch fire. Failure to comply with these instructions will lead all warranties to be void and may cause a battery explosion or fire which may result in property damage, personal injury and/or loss of life. FullyMax, its distributors or retailers assume no liability for failure to comply with these safety instructions and warnings.

By purchasing this Li-Po battery, the buyer assumes all risks associated with using the battery. If you do not agree with this clause, return the battery immediately before use. This document shall be applied to all the Radio Control series batteries manufactured and supplied by Fullymax.

1) Stop using or charging a battery immediately whenever the battery is damaged, gives off an odour, becomes discoloured, deformed, starts to balloon, swells up, leaks, its temperature reaches over 160F (71C) or anything else abnormal occurs. Disconnect the battery and observe it in a fire safe place. Any damage or abnormal problems may cause the battery to leak, and the reaction with air may cause the chemical materials inside to ignite and even result in fire. Since delayed chemical reaction may occur, a battery can still ignite even after 10 minutes, you should keep observing the battery for at least 15 minutes as a safety precaution. Battery observation should be taken in a safe area outside of any building or vehicle and away from any combustible material.

2) Only charge Li-Po batteries with a qualified charger, specifically designed to check the voltage of each cell of the Li-Po battery. Do not use a Ni-MH or Ni-Cad charger. The maximum charged voltage for each Li-Po-cell is 4.20V, never charge over 4.25V. Failure to do so may cause a fire which may result in personal injury and property damage. Some Li-Po chargers in the market may have technical deficiencies, which may charge the Li-Po batteries incorrectly or at an improper rate. It is your responsibility solely to assure that the charger you purchased works properly.

3) Before using the battery, make sure the working voltage of the battery is known and the correct connection between the model & charger is well understood. Incorrect connections or connections with reverse polarity of the battery will damage both the battery and model & charger, and it can even lead to fire which may result in personal injury and property damage.

4) During the whole Li-Po battery charging process, never charge batteries unattended. You should always constantly observe and monitor the charging process and react to any problems occurring to assure that batteries are being charged properly at all times.

5) Do not charge or discharge the batteries with the current exceeding the max continuous charge & discharge current specified for them, otherwise, it will cause the batteries to overheat and result in battery deterioration, bursting, ballooning or may even cause fire or explosion.

6) Make sure all the wires and connectors are insulated. Never short-circuit the battery, or it will cause battery damage or even fire.

7) Never store or charge battery pack inside your car or in extreme temperature, since extreme temperature might ignite the battery and cause fire.

8) Store the battery in a place where infants/children cannot reach. Make sure infants/children do not handle the battery or the charger or other related equipment.

#### **Handling and Caring for Battery**

1) Never disassemble, modify, puncture, mechanically shock, crash and/or short circuit the battery, it may cause leakage, smoke emission, ignition, explosion and even fire, which may result in personal injury and property damage.

2) Short circuit may cause fire and injury! If you need to cut the terminal wires of the battery, it is necessary to cut each wire separately, ensuring the wires not to touch each other, otherwise, a short circuit may occur and potentially cause a fire. To solder a connector, remove insulating sleeving of Red wire and solder to positive terminal of a connector, then remove

insulating sleeving of Black wire and solder to the negative terminal of the connector. Be careful not to short the wire lead. If you accidentally cause the battery to short circuit, place it in a safe open space and observe the battery for at least 15 minutes. A battery may swell or even possibly catch fire after a short time. Additionally, if a short circuit occurs and contact is made with metal (such as rings on your hand), severe injuries may occur due to the conductivity of the strong electric current.

3) Avoid squeezing the battery while connecting/disconnecting to the equipment, never destroy the outside of the battery or bring the battery into contact with the sharp and hard objects, this may lead to leaking, ballooning, short circuit, even fire.

4) Dispose the used or damaged Li-Po batteries at your local Hazardous Waste Facility or return them to the place of purchase.

#### **Charging Process and Precautions**

1) Fullymax Radio Control high discharge batteries 40C plus, are capable of 5C charging, but please make sure the charger used is a qualified balance charger without any potential defects. A defective unqualified charger may cause fire, especially with so high charging current. Fullymax suggests charging your batteries with current no more than 2C to ensure safer and get longer cycle life.

2) Never charge batteries unattended. Use specific qualified Lithium Polymer charger with balancer. Do not let the temperature exceed the range from 32°F to 113°F (0°C to 45°C).

3) Always charge batteries with a balancer or use a charger with balance function. Overcharging may occur to the unbalanced cell of the pack if you use a series charger, or series charge programme, and it may shorten the battery life, and may even cause fire.

4) Always charge the batteries in an isolated safe area away from any flammable/combustible materials. Never charge a Li-Po battery on a wooden workbench, inside an automobile, or on any flammable surface. Fullymax recommends charging Li-Po batteries on a concrete surface where there are no flammable objects within 10 feet (3 meters) of the charging area.

5) Always remove your Li-Po battery from the equipment utilising Li-Po battery. Let the battery cool down to an ambient temperature before charging.

6) Check the voltage of the pack or cells before charging. Do not attempt to charge any pack if the open voltage is lower than the Lowest Open Voltage 3v per cell. Fullymax recommends checking the voltage of each cell before charging with the balance connector. If the open voltage of any cell is less than 3.0V/cell, stop charging the battery, remove the battery from service and dispose it properly.

7) Reverse Charging is prohibited! You must check the polarity before connecting the battery to the charger. Do not reverse the positive (+) and negative (-) terminals when charging. Otherwise, the battery pack will be reverse-charged, abnormal chemical reactions will occur, and the excessively high current will cause damage, overheating, smoke emission, bursting and/or fire.

8) When selecting the cell count or voltage for charging purposes, select the cell count and voltage as it appears on the battery label. As a safety precaution, please confirm that the information printed on the battery or label is correct. Selecting a wrong cell count or charging voltage may cause fire.

9) Never charge the battery with the current exceeding the max charging current specified for them. A higher setting may cause fire. If charging operation fails to complete even when a specified recharging time has elapsed, immediately stop further recharging.

#### **Use and Discharge Warnings**

1) Please check cell voltage after the first charge to make sure the voltage not to exceed 4.20 volts per cell. Fullymax recommends to check the voltage of each cell with the balance connector to make sure the voltage of each cell keeps within 4.15-4.22V.

2) The range of discharge temperature is between 32 to 113°F (0 to 45°C). For optimum performance of our R/C batteries, 68 to 86°F (20 to 30°C) is recommended.

3) During discharging and handling the batteries, the temperature must not exceed 160°F (71°C), otherwise, the battery may be damaged and may even result in fire.

4) For the first discharge, use low discharging current and keep the discharging time to a 6-minute session with 15-minute break.

5) Do not discharge the battery with the current over the designed maximum continuous discharging current as displayed on the pack. A higher discharging current may cause overheating which will lead to ballooning and swelling up or even result in fire. For example, a 1000mAh battery with a designed max 25C discharge current must not have a maximum discharge rate or load of more than 25 Amps. The maximum discharge rate or load must never be exceeded. For longer cycle life, a continuous discharging current of 70%-80% of the designed maximum discharging current is better for the pack and recommended for long battery life.

6) Never discharge Li-Po battery below the Lowest Discharge Voltage 3v per cell, as it may cause irreversible damage which will deteriorate the battery performance and cycle life. Caution must be taken so that your Li-Poly batteries do not discharge lower than the Lowest Discharge Voltage when using Electronic Speed Controllers.

You should not use an ESC where the ESC has been designed for use with Ni-cad or Ni-Mh.

7) Do not mix FULLYMAX batteries with other types, or other brands or different performance batteries, this can damage the battery and cause safety problems.

8) For receiver's with working voltage of 4.8v or 6.0V, a specified voltage regulator should be connected to the Fullymax receiver battery, and then to the receiver. Never connect the Fullymax receiver battery directly to the receiver or the receiver may work abnormally or be irreparably damaged.