Flyzone™

AiRcore™

Lithium-Polymer Battery

Safety and Handling Instructions

STOP **Read this manual in its entirety before use!** Damage resulting from misuse or modification will void your warranty. Flyzone™ will not be held responsible for any and all incidental damages and bodily harm that may result from improper use of this battery. In purchasing this product the buyer/user agrees to bear all responsibilities of these risks and not hold Flyzone, its distributors (owners and employees) and/or retailers responsible for any accidents, injury to persons, or property damage. If you do not agree with these conditions, please return the battery to the place of purchase.

Failure to follow these instructions can quickly result in severe, permanent damage to the batteries, cause personal injury, and even start a **FIRE!** Before and after every use of a LiPo battery, carefully inspect the pack to ensure no physical damage or swelling is evident. Such signs can often indicate a dangerous problem exists with the battery that could lead to catastrophic failure.

RATED SPECIFICATIONS

This FLZA6401 LiPo battery has nominal ratings of 7.4 volts, 250mAh of capacity, 20C discharge current (5 amps maximum), and 1C charge current (300mA, or 0.3A).

CHARGING THE BATTERY

⚠ **• NEVER LEAVE A LIPO BATTERY UNATTENDED AT ANY TIME WHILE BEING CHARGED!**

• **NEVER** charge a LiPo battery while it's inside the model. A hot pack could ignite wood, foam, plastic, etc.

• **NEVER** charge LiPo batteries with a NiCd or NiMH peak charger! **ONLY** use a charger specifically designed for LiPo batteries which can apply the "constant current/constant voltage" charge technique (cc/cv).

• **NEVER** charge this LiPo battery at currents greater than the "1C" rating of the battery (300mA, or 0.3A).

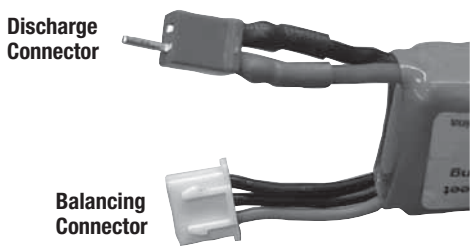
• **NEVER** allow LiPo cells to overheat at any time! Cells which exceed 140°F (60°C) during charge can and USUALLY WILL become damaged physically and possibly catch **FIRE!!** Always inspect a battery which has overheated and do not re-use if you suspect it has been damaged in any way.

• **NEVER** apply a trickle charge to LiPo batteries.

• **ALWAYS** discontinue charging a LiPo immediately if the battery begins to swell. Swelling can cause the battery to rupture and/or leak, and result in fire. Disconnect the battery and leave it in a safe fireproof location for approximately 30 minutes.

• **ALWAYS** charge a LiPo battery in a fireproof location, which could be a container made of metal (such as an ammunition box), ceramic tile, or a bucket of sand. ALWAYS have an "Class D" fire extinguisher available at all times.

To charge this LiPo battery:



1. Only use a charger that is compatible with LiPo batteries rated at 7.4V, with an output current of 0.2A to 0.3A (200mA to 300mA). Read the charger's instruction manual entirely before use. Using a charger which has a battery temperature monitor can be helpful to ensure a full charge and also prevent unwanted heating. Set the charger's maximum battery temperature to approximately 115°F (46°C).

2. Connect the battery's discharge lead to a charger's main output. ElectriFly's GPMM3149 – Charge Lead, Banana Plugs to Deans® Micro can connect the battery to a charger which has banana jacks. Otherwise, make sure the connection between the battery and charger is secure with the correct plug types, and with proper polarities. NEVER connect the battery until the adapter is first connected to the charger!

⚠ **WARNING!** Never allow a battery's positive and negative leads to accidentally touch each other. This will result in a short circuit and cause permanent damage to the battery and/or charger.

3. Connect the battery's balancing connector to the charger's balancing port. Flyzone batteries use a JST-XH type balancing connector.

4. Set the charger's output voltage to 7.4V.

⚠ **NEVER set the charger's output to a higher voltage, or allow LiPo cells to charge to greater than 4.20V per cell at any time!!** Failure to obey this warning usually results in a permanent, catastrophic failure in the LiPo cells which can result in permanent damage to the battery and its surroundings, and cause personal injury!

5. Set the charger's output current to NO GREATER than the "1C" rating of the battery, at 300mA (0.3A).

6. Command the charger to start the charge process. ALWAYS monitor the battery and charger during the entire charge process! See the warning notes above for charging LiPo batteries.

CONNECT AN ESC/DISCHARGER

To discharge this LiPo battery:

1. **ALWAYS** connect the battery's discharge connector to the electronic speed control or discharger.

2.a. If using an ESC, leave the battery's balancing connector unconnected. It's strongly recommended to use an ESC which is designed to handle the low voltage cutoff points for LiPo batteries. Read the ESC's instructions entirely before use. Do NOT allow the battery to discharge below 2.5V per cell at any time.

2.b. If using a discharger, connect the battery's discharge connector to the balancing port on the charger. Do NOT discharge the battery below 2.5V per cell at any time. Read the discharger's instructions entirely before use.

⚠ **ALWAYS** discharge in a fireproof location. Monitor the process, and have a lithium approved "class D" fire extinguisher available at all times.

3. Do not discharge this battery at currents exceeding 20C, or 5 amps. Failure to do so can result in the battery overheating and failing. Do not allow a LiPo cell to exceed 140°F (60°C) during discharge.

BATTERIES INVOLVED IN A CRASH

LiPo batteries involved in a crash can be dangerous. Even if no physical damage is visible, a delayed chemical reaction could cause the battery to ignite even after having been removed from the crash for some time. After a crash, place the battery in a fireproof location IF SAFE TO DO SO, and observe for at least 30 minutes. Carefully inspect it for cracks, splits, punctures, etc. Do not continue to use damaged batteries. Refer to the DISPOSAL OF LIPO BATTERIES section at the end of this manual.

⚠ **CAUTION!** Cells may be hot! DO NOT allow the battery's internal electrolyte to get in the eyes or on skin. Wash affected areas with soap and water immediately if they come in contact with the electrolyte. If electrolyte makes contact with the eyes flush with large amounts of water for 15 minutes and seek medical attention immediately. If a battery leaks electrolyte or gas vapors, do not inhale leaked material. Leave the area and allow the batteries to cool and the vapors to dissipate. Remove spilled liquid with absorbent and dispose.

SAFETY PRECAUTIONS

- **NEVER** allow LiPo batteries to be charged or discharged on or near combustible materials, including paper, plastic, carpets, vinyl, leather, wood, inside an R/C model or full-sized automobile.
- **NEVER** put packs in the pocket of any clothing.
- **NEVER** allow LiPo cells to come in contact with moisture or water at any time.
- **NEVER** store batteries near an open flame or heater.
- **NEVER** assemble LiPo cells or pre-assembled packs together with other LiPo cells/packs. Only a qualified battery assembly company should assemble or modify LiPo batteries.
- **NEVER** allow LiPo cells to become punctured, especially by metallic objects such as screwdrivers, T-pins, or hobby knives.
- **ALWAYS** provide adequate ventilation around LiPo batteries during charge, discharge, and during storage. If a battery becomes overheated IMMEDIATELY place it in a fire-proof location until it cools.
- **ALWAYS** store LiPo cells/packs in a secure location away from children.
- **ALWAYS** make sure that metallic objects, such as wristwatches, bracelets, or rings are removed from your hands when handling LiPo packs. Accidentally touching battery terminals to any such objects could create a short-circuit condition and possibly cause severe personal injury.

STORAGE & TRANSPORTATION

- For long term storage, it's recommended to charge the cells fully, then discharge them to a 50-60% of their rated capacity.
- Store battery at room temperature in a cool or shaded area, ideally between 40-80ºF. Temperatures exceeding 170ºF for greater than 1 hour may cause damage to the battery and cause a fire.
- Do not expose battery packs to direct sunlight for extended periods of time, or place in a direct contact with any liquids. If batteries come in contact with water, immediately dry the battery with a clean towel.
- When transporting LiPo batteries, store them in a fireproof container. NEVER leave batteries lying loosely anywhere in the car (in the trunk, backseat, floor, etc.).
- ALWAYS make sure all plugs / connectors on the LiPo battery are covered, to prevent an accidental short. Small sections of fuel tubing make good insulators.
- NEVER leave LiPo batteries in the car indefinitely as temperatures inside the vehicle can easily rise far in excess of 120ºF which could damage the battery.

DISPOSAL OF LIPO BATTERIES

Lithium-polymer batteries are environmentally friendly. For safety reasons LiPo cells should be fully discharged before disposal (however, if physically damaged it is NOT recommended to discharge LiPo cells before disposal - see below for details). The batteries must also be cool before proceeding with disposal instructions. To dispose of LiPo cells and packs:

1. Place the LiPo battery in a fireproof container or bucket of sand.

2. If any LiPo cell in the pack has been physically damaged, resulting in a swollen cell or a split or tear in a cell's foil covering, do NOT discharge the battery. Jump to step 5.

3. Connect the battery to a LiPo discharger. Set the discharge cutoff voltage to the lowest possible value, and the current as low as 20mA if possible. It's also possible to discharge the battery by connecting it to an ESC/motor system and allowing the motor to run indefinitely until no power remains to further cause the system to function.

4. Discharge the battery until its voltage reaches 1.0V per cell or lower.

5. Disconnect the battery, and submerse it into bucket or tub of salt water. This container should have a lid, but it does not need to be air-tight. Prepare a bucket or tub containing 3 to 5 gallons of cold water, and mix in 1/2 cup of salt per gallon of water. Drop the battery into the salt water. Allow the battery to remain in the tub of salt water for at least 2 weeks.

6. Remove the LiPo battery from the salt water and place it in the normal trash.

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