



## ProTek R/C Lithium Polymer (Li-Poly) Battery User Manual

**Warning:** You must read this instruction manual and understand it before starting to use this product! Improper use or improper charging may cause explosion or fire.

Thank you for purchasing a **ProTek R/C** Lithium Polymer (Li-Poly) battery! Li-Poly battery cells have four times the energy density of NiMH battery cells, which makes Li-Poly batteries much lighter for the same battery capacity as NiMH batteries. Li-Poly batteries also have very low internal resistance, providing more 'punch' than NiMH batteries with less voltage loss.

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### Care & Handling

- **NEVER** short the Li-Poly battery connectors! Handle all Li-Poly batteries with care. Li-Poly batteries can deliver extremely high currents if shorted and subsequently can cause fire or injury
- Always store Li-Poly batteries in a secure fireproof location where children cannot reach them.
- Store your batteries in a cool, dry place. Do not leave your battery exposed to direct sunlight or temperatures below 32 degrees Fahrenheit (0 degrees Celsius), or above 122 degrees Fahrenheit (50 degrees Celsius).
- Li-Poly batteries are best stored at 50% charge.

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### Charging

- **DO NOT** charge the battery on a wooden workbench or on any flammable material.
- **DO NOT** charge the battery in your radio controlled model.
- **DO NOT** charge the battery inside a motor vehicle, or in a vehicle's engine compartment.
- **NEVER** allow the voltage to drop below 3.0V per cell.
- Only charge Li-Poly batteries with a charger designed specifically for charging Li-Poly batteries. Using other types of chargers may cause explosion or fire.
- Unless noted, always charge Li-Poly batteries at or below 1C (or one times the rated capacity of the battery). If the battery is a 2000mAh battery, only charge the battery at current rates up to 2A (2000mAh)! If you charge the batteries over 1C, you risk damaging the battery and shortening the life span. If you charge at extremely high current settings, the battery may ignite and cause a fire. Some batteries are designed to handle a 2C charge rate, so only charge at that rate for batteries designed for it.
- **ProTek R/C** ships the batteries with a 50% charge. The initial charging time of the battery will be shorter when compared to a fully discharged battery pack.
- Li-Poly batteries do not have a memory effect like NiMH and NiCD batteries. You do not need to fully discharge the battery completely before you recharge it.

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### Disposal Procedure

- 1 If any Li-Poly cell in the battery 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 – immediately jump to Step 6!
- 2 Place the Li-Poly battery in a fireproof container or bucket of sand.
- 3 Now the battery must be discharged. Discharging a Li-Poly battery – especially those with a large capacity – can take hours, days and even weeks to complete. For the fastest results, make sure each cell in your battery has a voltage no higher than 3.0V before continuing to step 4. Choose a method below to achieve this:
  - **Option 1:** Connect the battery to a Li-Poly specific charger and set the charger to "Discharge" mode. Set the discharge cutoff voltage to the lowest possible value and discharge the battery until it has finished its discharge cycle.

- **Option 2:** Use the battery in your model until the ESC low voltage cutoff initiates. Typically, the low voltage cutoff will be programmed to initiate when the individual cells reach 3.0 – 3.2V.
- 4 Deep Discharge - Connect a 150 ohm resistor with a power rating of 2 watts, commonly found at most electronic stores, to the packs positive and negative terminals to safely deep discharge the battery. This procedure is safe with 1S – 6S batteries; keep in mind the larger the battery capacity, the more time the discharge requires. It is important to be patient as this step can take many days to complete. For example, a 3S 2200mAh battery at 50% charge will take over 80 hours to discharge to 0V.
  - 5 If possible use a volt meter and check the voltage of the battery. Ensure each cell is at 1.0V or lower.
  - 6 Submerge the battery into a bucket or tub of salt water. This container should have a lid, but it does not need to be air-tight. Prepare a plastic container (do not use metal) of cold water, and mix in ½ 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. This salt bath will neutralize any remaining power in the battery.
  - 7 Remove the Li-Poly battery from the salt water, wrap it in newspaper or paper towels and place it in the normal trash. Lithium Polymer batteries are landfill safe once drained of all power.
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## Disclaimer & Warranty

All **ProTek R/C** batteries are covered by manufacturer warranty against defects in materials and workmanship for 90 days after original purchase date. Warranty will not cover batteries that have been modified, disassembled, or otherwise misused according to the item's instructions. **ProTek R/C** is not responsible for bodily injury and/or property damage that may occur from the use of, or caused by, this battery.