

**3C CHARGE
CURRENT
30C CONSTANT
DISCHARGE**



**HIGH-PERFORMANCE
MICRO HELI
POWERPACKS**

USER MANUAL



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1. CONNECTIONS

All LRP Micro Heli 30C LiPo batteries come with properly sized power-wires and/or custom made power plugs. Be sure to always take care of the right polarity of the battery as a wrong connection will damage your battery and your product. Never change the power plugs do not do any soldering on the batteries.

2. CHARGING

Due to new and special manufacturing technologies, all LRP Micro Heli 30C LiPo batteries can be charged with a maximum current of 3C*. For charging, only use chargers, which are specially designed and developed for LiPo-batteries. These chargers charge the battery with the max. current till the battery reaches the max. charging voltage. The charger then reduces the charging current until the battery is fully charged. This charging method is called CC/CV (Constant Current/Constant Voltage).

ATTENTION: Under no circumstances use NiMH/NiCd-chargers for charging LiPo-batteries! These chargers do not reduce the charging current and therefore ultimately lead to overcharging the battery!

LRP Micro Heli 30C LiPo batteries do not heat up during charging. It is normal, that the battery still has ambient temperature when it is fully charged. If the battery heats up during charging or warps, immediately stop charging it. The maximum charging voltage for each single LiPo-cell is 4.20V. If the battery reaches this voltage, the charge current has to be lowered. This is automatically done by the charger. If the charge current reaches 0.05 - 0.1C*, the battery is fully charged.

ATTENTION: The maximum charging voltage of the LRP Micro Heli 30C LiPo batteries should never exceed 4.20V.

Please Note: You can use your LRP Micro Heli 30C LiPo battery several times a day. However be sure, that the battery has completely cooled down to ambient temperature, before re-charging it again.

LRP Micro Heli 30C LiPo batteries do not have a memory effect and only a very low self-discharge rate. Therefore you can also charge batteries with a partial charge in them, without the need of discharging the pack before. Partially charged packs can be stored over a long period of time, without getting damaged. Please also see the „Storage“ section for further reference.

* C=Nominal capacity of the battery. E.g. with a nominal capacity of 170mAh (0.17Ah), the battery can be charged with a max. current of 0.51A.

3. DISCHARGING

All LRP Micro Heli 30C LiPo batteries are capable of a maximum peak discharge current of 60C. The special manufacturing technology of the LRP Micro Heli 30C LiPo batteries make these high discharge currents possible.

The **continuous** discharge current for all LRP Micro Heli 30C LiPo batteries is 30C.

Please note: Always take care that the battery gets enough cooling when discharging it with high discharge currents.

You have to take care, that the batteries do not get deep discharged. **As soon as the battery voltage falls below 3.00V per single cell, the battery pack gets damaged irrevocably. The battery voltage should never fall below this discharge cut-off voltage.**

If your product does not have a special undervoltage protection for LiPo-batteries, you have to stop your model early enough in order not to deep discharge the battery pack. Therefore stop immediately as soon as you feel a rapid loss in power.

IMPORTANT: The max. temperature of the LiPo-battery during discharge must never exceed 65°C (150°F).

4. STORAGE

LRP Micro Heli 30C LiPo batteries do not have a memory effect and only a very low self-discharge rate. Therefore these batteries can be stored over a longer period of time without special treatment. You only have to take care, that the batteries do not get stored completely empty. For a storage over a short period of time, you also have to pay attention, that the battery is partially charged. Never store the battery completely empty.

If you pay attention to the above mentioned notes, you can enjoy your LRP Micro Heli 30C LiPo batteries for a very long time.

Dear Customer,

thank you for your trust in this LRP product. By purchasing a LRP Micro Heli 30C LiPo battery, you have chosen a high-performance battery for your RC model. Please read the following instructions to ensure, that your LRP Micro Heli 30C LiPo always works up to your full satisfaction.

LiPo-batteries need special treatment and care. Please read the following instructions carefully before you start using your LRP Micro Heli 30C LiPo battery. This user guide contains important notes for the installation, the safety, the use and the maintenance of this product. Thus protecting yourself and avoid damages of the product.

Proceed according to the user guide in order to understand your LRP Micro Heli 30C LiPo battery better. Please take your time as you will have much more joy with your product if you know it exactly.

This user manual shall be kept in a safe place. If another customer is using this product, this manual has to be handed out together with it.

5. SPECIAL NOTES FOR HANDLING

- Avoid short-circuits! Short-circuiting the battery results in very high currents, which damage the internal structure of a LiPo-battery. This leads to a loss of power and capacity.
- Be sure, not to damage the outside of the LiPo-battery. The battery is protected by a heatshrink. The actual Lipo-cell is directly under this heatshrink. If the outer skin of the cell gets damaged, the battery can no longer be used. Therefore take special care, that no sharp objects like knives, tools, carbon fibre edges or similar items can damage the battery.
- When securing the LiPo-battery inside your model/device, you have to take care that the LiPo-battery does not get damaged or warped in case of a crash. LiPo-batteries are less mechanical resistant than NiMH-batteries in a metal can. Therefore pay special attention that the LiPo-battery does not get damaged or warped by letting it fall down, hitting it, bending it or by similar actions.
- Never charge several LiPo-battery packs at once with one charger. The different capacities and charge levels can lead to serious overcharging of the battery, even if you are using a charger with LiPo capabilities.
- Damaged packs cannot be used any longer. If the packs show signs of damage, are bent or similar, do not use the packs anymore.
- The chemical reaction during charging and discharging a LiPo-battery is not fully reversible. Due to that, LiPo-batteries loose capacity during their life-span. This is normal and not a manufacturing nor production fault.

Disposal note: Damaged packs or packs, which can no longer be used are hazardous waste and have to be disposed accordingly.

REPAIR PROCEDURES / LIMITED WARRANTY

All products from LRP electronic GmbH (hereinafter called "LRP") are manufactured according to the highest quality standards. LRP guarantees this product to be free from defects in materials or workmanship for 90 days (non-european countris only) from the original date of purchase verified by sales receipt. This limited warranty doesn't cover defects, which are a result of misuse, improper maintenance, outside interference or mechanical damage. This especially applies on already used batteries or batteries, which show signs of heavy usage. Damages or output losses due to improper handling and/or overload are not a product fault. Signs of wear (loss of capacity) after intensive usage are also no product fault.

To eliminate all other possibilities or improper handling, first check all other components in your model and the trouble shooting guide, if available, before you send in this product for repair. If products are sent in for repair, which do operate perfectly, we have to charge a service fee according to our pricelist. The following points do also result in a service fee:

- Original power plugs replaced with a NON reverse polarity protected power plug system.
- Send in the battery without power plugs.
- Removed or damaged original heatshrink.

With sending in this product, the customer has to advise LRP if the product should be repaired in either case. If there is neither a warranty nor guarantee claim, the inspection of the product and the repairs, if necessary, in either case will be charged with a fee at the customers expense according to our price list. A proof of purchase including date of purchase needs to be included. Otherwise, no warranty can be granted. For quick repair- and return service, add your address and detailed description of the malfunction.

If LRP no longer manufactures a returned defective product and we are unable to service it, we shall provide you with a product that has at least the same value from one of the successor series.

The specifications like weight, size and others should be seen as guide values. Due to ongoing technical improvements, which are done in the interest of the product, LRP does not take any responsibility for the accuracy of these specs.

LRP-Distributor-Service:

- Package your product carefully and include sales receipt and detailed description of malfunction.
- Send parcel to your national LRP distributor.
- Distributor repairs or exchanges the product.
- Shipment back to you usually by COD (cash on delivery), but this is subject to your national LRP distributor's general policy.

