

LRP VTEC RX - LIFE LINE

LIFE TECHNOLOGY
HIGH POWER
HIGH CAPACITY



LRP electronic GmbH
Hanfwienerstraße 15
73614 Schorndorf
Deutschland

WWW.LRP.CC

6.6V RX LIFE HUMP AND STRAIGHT PACKS

DEAR CUSTOMER,

thank you for your trust in this LRP product. By purchasing a LRP VTEC RX-only LiFe battery, you have chosen a high-performance battery for your RC model. Please read the following instructions to ensure, that your LRP VTEC RX-only LiFe battery always works up to your full satisfaction.

LiFe-batteries need special treatment and care. Please read the following instructions carefully before you start using your LRP VTEC RX-only LiFe 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 VTEC RX-only LiFe 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.

1. CONNECTIONS

All LRP VTEC RX-only LiFe Packs are already equipped with the appropriate power plugs for connecting them to your receiver.

In addition to the power connectors, you will also find so called balancer connectors at you LiFe-packs. Those connectors comply with the EHR - standard and have a three-core cable on any 2S LiFe-pack. Those connectors are used for balancing the single cells of a battery pack to an equal voltage level. For standard operation on the transmitter or receiver the balancer is not necessary. Nevertheless, it must not be cut or removed by any means.

Special balancers or certain chargers use this balancing port to perfectly condition and equalize the individual cells inside the pack. Please check the user manual of the balancer/charger in order to know how the battery needs to be hooked up. For perfect charging and conditioning of the batteries, we recommend our LRP PULSAR TOUCH COMPETITION (No. 41555).

Note: The Balancing-port shall not be used for the standard use in the model/device.

Balancing-port (2S - 7.4V Packs)

Black (battery -) = Cell 1-
Brown (call conn.) = Cell 1+ (Cell 2-)
Red (battery +) = Cell 2+

2. CHARGING

All LRP VTEC RX-only LiFe packs can be charged with a current of up to 1C*. For charging, only use chargers, which are specially designed and developed for LiFe-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 or chargers, that are set to NiMH/NiCd mode, for charging LiFe-batteries! These chargers do not reduce the charging current and therefore ultimately lead to overcharging the battery!

ATTENTION: Never use the LiPo - mode of your charger for charging your LiFe RX-only packs. The different nominal cell voltage of those two battery types will inevitably lead to the destruction of your LiFe battery. Therefore please always take care to use the correct LiFe programme of your charger.

LRP VTEC RX-only LiFe batteries 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. A Balancer which monitors the voltage of each single cell is mandatory during the charge of LiFe batteries.

ATTENTION: Never charge your LiFe battery without a balancer directly connected to the balancing port of your battery, unless your charger is already equipped with a balancer.

The maximum charging voltage for each single LiFe-cell is 3.60V. 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. Some LRP VTEC RX-only LiFe batteries batteries consist of multiple LiFe-cells. You can see the max. charging voltage in the table below. We advise the following settings for charging our LRP VTEC RX-only LiFe batteries:

| Cell configuration | max. charge current | max. charging voltage |
|---|---------------------|-----------------------|
| LRP VTEC LiFe RX-Pack - 6.6V - 2S (all types) | 1C* | 7.20V |

Please note: You can use your LRP VTEC RX-only LiFe battery several times a day. However be sure, that the battery has completely cooled down to ambient temperature, before re-charging it again.

LRP VTEC RX-only LiFe batteries 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 2000 mAh (2.0Ah), the battery can be charged with a max. current of 2.0A.

3. USE OF RX-ONLY PACKS WITH RECEIVERS

Due to their nominal voltage of 6.6V, the 2S LiFe-RX-only packs may be directly connected to your receiver without the need of using a RX-voltage regulator.

4. DISCHARGING

You have to take care, that the batteries do not get deep discharged. As soon as the battery voltage falls below 2.30V per single cell, the battery pack gets damaged irrevocably. With 2S packs, the discharge cut-off voltage under load is 4.60V. The battery voltage should never fall below these discharge cut-off voltages. You should check the voltage of your RX-only pack after every longer ride and recharge it if necessary.

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

Note: If the batteries do swell or get thick after discharging them, it is a sign of overload and/or deep-discharge. The battery pack gets damaged due to this and the max. performance will get less. Swollen battery packs are not a product fault and therefore excluded from the limited warranty.

5. SPECIAL NOTES FOR HANDLING

- Avoid short-circuits! Short-circuiting the battery results in very high currents, which damage the internal structure of a LiFe-battery. This leads to a loss of power and capacity.
- Never charge LiFe batteries without a balancer. Charging without a balancer can damage the battery. Please note, that your limited warranty will void if you charge without balancer.
- Be sure, not to damage the outside of the LiFe-battery. The battery is only protected by a heatshrink. The actual LiFe-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 hardcase and/or the cells within it.
- When securing the LiFe-battery inside your model/device, you have to take care that the LiFe-battery does not get damaged or warped in case of a crash. LiFe-batteries are less mechanical resistant than NiMH-batteries in a metal can. Therefore pay special attention that the LiFe-battery does not get damaged or warped by letting it fall down, hitting it, bending it or by similar actions.
- Never charge several LiFe-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 LiFe 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 LiFe-battery is not fully reversible. Due to that, LiFe batteries lose capacity during their life-span. This is normal and neither 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 of accordingly.

6. STORAGE

LRP VTEC RX-only LiFe 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 longer period of time, we recommend to charge the battery up to 50% of the nominal capacity. Therefore fully discharge the battery pack and then partially charge it with a charge current of 1C for 30 minutes. In this condition, the battery can be stored at least half a year at 25°C room temperature without the need of recharging it.

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. Even if you are using your battery regularly every week, always pay attention that the battery is partially charged with at least 30% of the nominal capacity during storage. A partial charge with 1C charge current for 20 minutes is sufficient in this case, if the battery was completely empty before.

If you pay attention to the above mentioned notes, you can enjoy your LRP VTEC RX-only LiFe batteries for a very long time.

7. INTERESTING FACTS ABOUT LIFE BATTERIES

- LiFe batteries shall only be charged at a temperature between -20 and +60°C. If this will not be observed, the cycle life of the battery will be reduced drastically.
- It is not visible from the outside when a LiFe battery gets overcharged. The only way to find this out is to measure the voltage of the LiFe battery. The battery does not heat up nor does it swell when it gets overcharged. Therefore always check the battery voltage during charging. If it exceeds the max. charging voltage stop the charging process immediately and check all settings.
- We recommend to stop discharging a LiFe battery if the remaining capacity reaches 30% of the nominal capacity. With this, LiFe batteries will have the max. possible cycle life. Real-Life application showed, that the cycle life of LiFe batteries is reduced if the battery always gets completely discharged. This phenomenon can be seen with all types of LiFe batteries.

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.

The following points do also result in a service fee: Original power plugs replaced with a NON reverse polarity protected power plug system (Stickpacks). Use of a non reverse polarity protected power plug system (Competition batteries). Send in the battery without power plugs. Removed or damaged original heatshrink.

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.

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:

- check www.lrp.cc



