

USER GUIDE



LRP electronic GmbH
Wilhelm-Enssle-Str. 132-134
73630 Remshalden
Germany
info@LRP.cc www.LRP.cc

WARNING NOTES



No toy. Not suitable for children under 14 years.
Keep the product out of the reach of children.

Pay close attention to the following points, as they can destroy the product and void your warranty. Non-observance of these points can lead to property damage, personal and severe injuries!

- Never leave the product unsupervised while it is switched on, in use or connected with a power source. If a defect occurs, it could set fire to the product or the surroundings.
- Avoid incorrect connections or connections with reversed polarity of the product.
- All wires and connections have to be well insulated. Short-circuits can possibly destroy the product.
- Never allow this product or other electronic components to come in contact with water, oil or fuels or other electroconductive liquids, as these could contain minerals, which are harmful for electronic circuits. If this happens, stop the use of your product immediately and let it dry carefully.
- **Avoid overtightening the motor screws. Damaged threads are not covered under warranty!**
- Avoid overloading the motor due to wrong or too long gear ratios.
- **Never apply full throttle if the motor is not installed. Due to the extremely high RPMs without load, the motor can get damaged.**
- Always wire up all the parts of the equipment carefully. If any of the connections come loose as a result of vibration, you could lose control over your model.
- Avoid soldering longer than 5 seconds per soldering joint when replacing the power wires to prevent possible damage to the product due to overheating of the components. Use a high power soldering station with at least 60W for soldering.

The manufacturer can not be held responsible for damages, which are a result of non-observance of the warning notes and security advices.

MAINTENANCE - TYPE 1

Due to the maintenance free design of your motor, it is not necessary to open the motor under normal conditions. Nevertheless, we recommend to oil the ball bearings with a suitable oil from time to time. We recommend our LRP Ball Bearing Oil 2 (#65430).

The **front** bearing can easily be oiled from the outside. Simply put a drop of oil onto the bearing and turn the motor for a few turns with your hand, so that the oils gets into the bearing.

To oil the **rear** bearing, you have to remove the endcover first. Therefore loosen the three hex screws on the back of the motor. Now you can remove the endcover and the rear ball bearing can be seen. Put a small drop of oil onto this bearing as well and turn it with your hand for a few turns, so that the oil gets into the bearing. After this, reattach the endcover and secure it with the three hex screws.

MAINTENANCE - TYPE 2

Due to the maintenance free design of the LRP Ultimo Drift Type-2 motor, it is not necessary to open the motor frequently under normal conditions. It is just recommended to check that all screws are still securely fastened. Nevertheless, if you intend to check the ball bearings and oil them from time to time or want to change to another rotor type, you can of course disassemble the motor.

Disassemble the motor:

1. Loosen and remove the 3 screws at the front of the motor and remove the front cover.
2. Carefully pull the rotor out of the housing and place it in clean towel or designated rotor container.
3. Loosen the endcovers 3 screws and remove endcover.
4. You have now access to both ball bearings for cleaning, maintenance and replacement. You may also use compressed air to clean the inside of the motor after you have removed the bearings.
5. To re-assemble the motor, it's this procedure backwards! Doublecheck, that all screws are securely retightened but do not overtighten them.



SPARE- AND OPTIONAL PARTS

Spare- and Optional-Parts - Type 1 specific:
#50602 Eraser R2 ABEC5 Ball Bearings (2pcs)

Spare- and Optional-Parts - Type 2 specific:
#50604 X11 R166 ABEC5 Ball Bearings (2pcs)
#50613 X11 Spare Rotor Sintered 12.3mm „Stock Spec“
#50619 X11 Small Parts Set (includes all screws, the plastic endcover and the ball bearing shim)
#50608 X11 R166 Ceramic Ball Bearings (2pcs), for lowest friction
#50611 X11 Tuning Rotor Sintered „FactoryTeam“ 12.5mm
#50612 X11 Tuning Rotor Sintered „FactoryTeam“ 13.0mm
#50616 X11 Alu Tuning Front Cover „MegaCool“ (with extra cooling openings)
#50617 X11 Alu Tuning Front Cover „MegaCool“, 1.5mm shorter (to alter car balance)
#50618 X11 Alu Tuning Endcover (with black cooling fins)

Spare- and Optional-Parts - General (all/both types):
#819307 Sensor-Wire „HighFlex“ 70mm
#819310 Sensor-Wire „HighFlex“ 100mm
#819315 Sensor-Wire „HighFlex“ 150mm
#819320 Sensor-Wire „HighFlex“ 200mm
#82505 Power-Wire Set Brushless 2.6mm² (red, black, blue, orange, yellow)
#82506 Power-Wire Set Brushless 3.3mm² (red, black, blue, orange, yellow)
#81907 3.3mm² Powerwire black (1.0m)
#81908 3.3mm² Powerwire blue (1.0m)
#82510 Brushless+Brushed Cooling Set (specially made heatsink and high-performance fan)
#65320 LRP Ball Bearing Oil 2



The crossed-out wheeled bin means that within the European Union the product must be taken to separate collection at the product end-of-life. Do not dispose of these products as unsorted municipal waste.

Dear Customer,

thank you for your trust in this LRP product. By purchasing a LRP ULTIMO DRIFT brushless motor, you have chosen a high performance brushless motor full of new advanced features:

- Neodymium magnets
- Star winding
- Sensored technology
- Standard 540 size and weight (168g)
- Handwound
- Double ball bearings
- Solder tabs for easy and safe installation

Please read the following instructions carefully before you start using your LRP ULTIMO DRIFT motor. 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 ULTIMO DRIFT motor 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.

SPECIFICATIONS

	Type 1	Type 2
Order No.	50483	50484
Voltage input	[V]	4.8 - 7.4
RPM¹	31.680	28.800
Specific RPM/V	[kW]	4.000
Power¹	[W]	190
Efficiency¹	[%]	87
Magnet	NdFeB 14.0mm	NdFeB Sintered 12.3mm
Weight	[g]	168
Winding	Star (Multistrand Copper Winding)	
Sensor assignment	Compliant with all federations	

Specifications subject to change without notice. ¹Measured at 7.2V

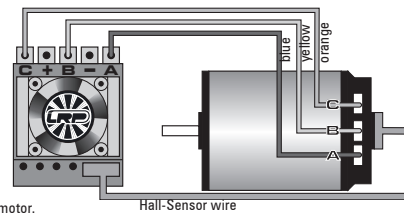
INSTALLATION & CONNECTIONS

HALL-SENSOR WIRE: This bi-directional multipole wire, which is supplied with all LRP sensored brushless speed-controls, connects the speedo and the motor. Do not alter or modify this cable! Make sure, that the plugs have a proper and tight fit and are always clean.

POWER WIRES: The unique splitted solder-tabs allow easy and convenient replacement of the power wires. Nevertheless some soldering skills are required. Talk to your local hobbyshop if you are concerned about soldering the wires yourself.

Caution: Avoid soldering longer than 5sec per soldering joint to prevent possible damage to the motor due to overheating of the inner components!

- Install the motor in the model.
Caution: The maximum length of the motor screws shall not exceed **8mm**.
- Connect the power wires of the speed-control to the motor.
Make sure, that the sequence is correct by checking the color code and the letters:
- MOT.A = blue wire
- MOT.B = yellow wire
- MOT.C = orange wire
- If you're using a sensored speed-control: attach the hall-sensor wire to motor and speed-control now.
- Finally check all the connections before using the motor.



GEARING

Please pay special attention to our gear ratio recommendations! A wrong gear-ratio causes excessive heating and may result in motor damage or thermal shutdown of your speed-control. Take your kits manual to find the correct pinion. Motor temperatures should be monitored, they should never exceed 80°C (= 175°F).

The following gear ratios are only a recommendation and a good starting point. The actual gearing may vary due to different speed-controls, speedo profiles, motor timings, tracks, track conditions and/or batteries:

Volts	Type 1	Type 2
7.2/7.4	7.0:1	6.5:..

→ Refer to your kits/models manual for correct gear ratio of your Ultimo Drift brushless motor.

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 countries 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 applies among other things on:

- Overload (for example: unsoldered Star-ling)
- Excessive amounts of dirt inside the motor
- Rotor damage due to debris inside motor
- Mechanical damage due to external causes
- Rust"

To eliminate all other possibilities or improper handling, first check all other components in your model and the troubleshooting 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:

- 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.