

Vector K4 Series

Brushless Sports Modified
Sintered Neodymium Magnet
PrecisSensor System
German Technology



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Warning Notes

Do not use aggressive advanced timing speed-control profiles with Vector-K4 motors!

Because of its unique design, with HVS Technology and PrecisSensor System, such profiles are not required to gain same performance as normal motors (with extreme speed-control timing advance) and with Vector-K4 such profiles only result in higher motor temperature but not higher performance!

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 overlightening the motor screws. Damaged threads are not covered under warranty!**
- Avoid applying 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.

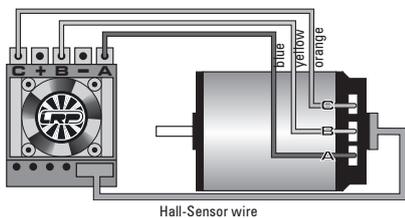
Installation & Connections

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: Your motor comes pre-wired using common motor connectors. It's simply „plug & play“ when you intend using a designated LRP speed-control. You can also solder the motor directly the power-wires if you prefer to use a „hardwired“ wire setup, 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 and 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 speedo now.
- Finally check all the connections before using the 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 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 applies among other things on:

- Overload (for example: unsoldered Star-ring)
- 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 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:

- 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 by COD (cash on delivery), but this is subject to your countries LRP distributor's policy.

Thank you for your trust in this LRP product. By purchasing a **LRP Vector-K4** brushless motor, you have chosen a highly developed product full of innovative features. LRP's R&D team took all the experience and testing results from our worlds-winning motors to design these budgetary **Vector-K4** motor line.

- Sintered Neodymium Magnets
- Double ball bearings
- XTEC K4 teardown, fully dismountable
- Pre-Wired
- Handwound, Star winding
- Sensored Technology
- Splitted soldertabs for easy installation
- Standard 540 size and lightweight (154g)

Please read the following instructions carefully before you start using your product. 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 product 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

	17.5T	13.5T	10.5T	8.5T	6.5T
Order No.	50480	50460	50450	50440	50430
Voltage input [V]	3.7 - 7.4V				
RPM ¹	15'840	21'960	25'920	30'960	39'600
Specific RPM/V [kV]	2200	3050	3600	4300	5500
Power ¹ [W]	175	230	280	300	370
Efficiency ¹ [%]	92	92	92	91	91
Weight [g]	154				
Magnet material	Sintered 12.45mm				
Winding	Star (Multistrand Copper Winding)				
Sensor assignment	Compliant to worldwide racing rules				

Specifications subject to change without notice.

Gearing Advise

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, it should never exceed 90°C (= 195°F).

The following gear ratios are only a recommendation and a good starting point. The actual gearing may vary due to different speed-controls and it's profiles, track size, track conditions and batteries:

USAGE	Volts	17.5T	13.5T	10.5T	8.5T	6.5T
Touring Car	7.4	4.5 : 1	6.5 : 1	7.5 : 1	8.0 : 1	9.0 : 1
1:12	3.7	68mm	53mm	49mm	44mm	40mm
2wd + 4wd Off-Road	7.4	6.5 : 1	7.5 : 1	8.5 : 1	10.0 : 1	11.0 : 1
Truck Off-Road	7.4	7.5 : 1	8.5 : 1	9.0 : 1	11.0 : 1	13.0 : 1

Disassembly & Maintenance

Due to the maintenance free design of the **Vector-K4**, it is not necessary to open the motor frequently under normal conditions. It is just recommended to check that it's three screws are always securely fastened and that you maintain the ball bearings frequently (clean, check, oil, replace if needed!) in order to achieve best performance. Of course you can also disassemble the motor entirely if you wish to do so. You can oil both bearings from the outside, the front bearing through the housing and the rear housing through the small hole in the center of the plastic endcover.

Disassembly of the motor:

1. loosen the three endcover screws (using 1.5mm allen key) and remove screws
2. remove the plastic endcover and the front housing.
3. now you can carefully pull the rotor out of the housing, place the rotor in clean towel or designated container.
4. you have now access the motor insides for cleaning. You may also use compressed air to clean the inside of the motor after you have removed the bearings.

Be careful that you do not overtighten the screws when re-assembling the motor!

Spare- and Optional-Parts

- Spare parts:**
- #50629 Vector-K4 5x10x4mm (MR105ZZ ABEC5) ball bearings (2pcs)
 - #50630 Vector-K4 sintered rotor
 - #50615 Vector-K4 front housing & small parts set (screws, endcover)

- Optional parts:**
- #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)
 - #82510 Radical Motor Heatsink and Fan (unique „clamp style“ heatsink design)
 - #65790 Works Team Tools, Motor Bearing Replacer



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.