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#83020

Brushed Speed Control
Over 16 Turns Motorlimit

AI Runner V2

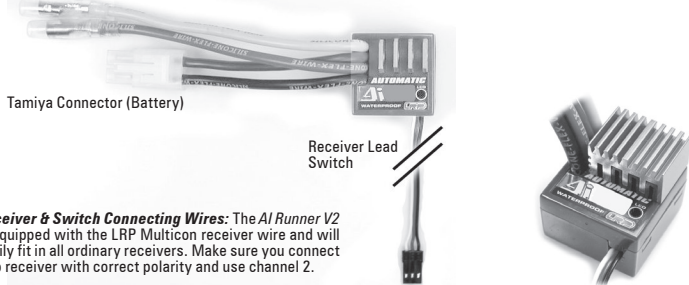
Specifications

Forward/Brake/Reverse	yes	Rec. Motor Limit**	Over 16 Turns
Footprint	26 x 26mm	BEC	6.0V / 1.0A
Height	15.7mm	Fully waterproof	yes
Weight (excl. wires)	19.0g	Fail-Safe-System	yes
Voltage Input	4.8-7.4V	Multi-Protection-System	yes
Typ. Voltage Drop* @20A	0.152V	Connectors	Std Tamiya
Rated Current*	92A	Setup Procedure	Automatic

* Transistors rating at 25°C junction temperature. Specifications subject to change without notice.
** @6cells (7.2V), using single motor

Connections & Explanations

Motor Connector
(yellow = plus) (blue = minus)



Receiver & Switch Connecting Wires: The AI Runner V2 is equipped with the LRP Multicon receiver wire and will easily fit in all ordinary receivers. Make sure you connect it to receiver with correct polarity and use channel 2.

Heatsink: The supplied heatsink is important and improves the performance of your speed-control when used close to its specified limits. Use only genuine LRP heatsinks and never allow the Fet tabs to touch other Fets, short circuit would occur which results in damage of the speed-control!

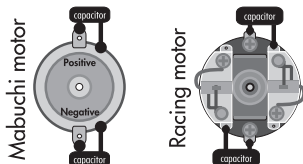
Connectors & Power Wires: For maximum convenience standard Tamiya/Bullet type connectors, in combination with high quality silicone wires, are used.

Waterproof: Due to latest production technologies and use of HighTech materials, it was possible to make this speed-control fully waterproof! This material also makes the speed-controls more shock resistant than other similar products. It's no longer needed to seal your speed-control when you are driving in the rain/snow! But please make sure you still seal your other electronic components (receiver and servo) since these are normally not waterproof.

Motor Suppression

Motors with no capacitors or not enough capacitors may interfere with the speed-control. To avoid this, solder the supplied capacitors to your motor (see picture).

CAUTION: Never use Schottky diodes in conjunction with a forward/reverse speed-control, e.g. the LRP A.I.Runner series speed-controls.



Troubleshooting Guide

To eliminate all other possibilities or improper handling, first check all other components in your model and the trouble shooting guide 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.

SYMPTOM	CAUSE	REMEDY
Insufficient performance. E.g. poor power, topspeed, reverse speed or brake	Wrong Gear ratio	Adjust gear ratio
	Transmitter settings changed after set-up	Repeat set-up procedure
	Motor worn out	Maintain motor
	Motor defective	Replace motor
	Speed-control defective	Send in product for repair
Servo is working, no motor function	Speedo plugged in incorrectly	Plug speedo to receiver as Ch.2
	Multi-protection System activated	Check settings for your application
	Wiring problem	Check wires and connectors
	Motor brushes jammed	Check whether brushes are moving freely
	Motor defective	Replace motor
No servo and no motor function	Speedo defective	Send in product for repair
	Speedo connected to receiver with wrong polarity	Connect speedo with correct polarity
	Wiring problem	Check wires and connectors
	Battery defective	Replace with different battery pack
	Crystal, receiver or transmitter defective	Replace components one by one
Motor stutters while accelerating	Speedo defective	Send in product for repair
	Radio interference	Change location of components
	Servo damaged or too strong (BEC overload)	Replace servo
Motor runs in reverse when accelerating forward on radio	Speedo defective	Send in product for repair
	Motor connected incorrectly	Connect motor correctly
Speed-control switches off frequently	Throttle stick polarity at transmitter changed while driving	Repeat startup procedure
	Model used too often without cool-down periods	Let cool down after every run
	Motor stronger than motorlimit or input voltage too high	Use only motors and batteries which are within the specifications of the speed-control.
	Stuck drivetrain or ball-bearing	Maintain model
	Motor defective	Replace motor
Motor never stops, runs at constant slow speed	Transmitter settings changed after set-up	Repeat set-up procedure
	Speedo defective	Send in product for repair
Radio interference	Receiver or antenna too close to power wires, motor, battery or speedo. Receiver aerial too short or coiled up	See „Installation Tips“ and „Installation“
	Receiver defective, too sensitive;	Replace components one by one
	Transmitter defective, transmitter output power too low, SERVO problem	Only use original manufacturers crystals
	Motor suppression insufficient	Add capacitors to the motor
Poor battery connection	Poor battery connection	Check plugs and connecting wires
	Transmitter batteries empty	Replace / recharge transmitter batteries

Thank you for your trust in our LRP A.I. Runner V2 speed-control, you have chosen a high-performance speed-control full of new design features, such as:

- Fully waterproof and shock-resistant
- Multi-Protection System
- LRP A.I. Automatic Setup
- Fail Safe System

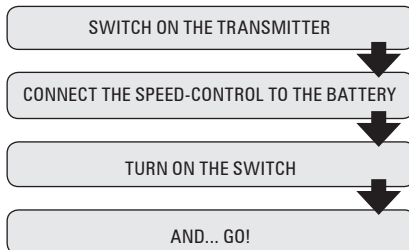
Please read the following instructions carefully before you start using your speed control. This user guide contains important notes for the safety, the use and the maintenance of this product. Thus protecting yourself and avoid damages of the product.

Proceed according to the user guide in order to understand your speed control 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.

Setup Procedure

After wiring up the speed-control, it is ready to operate. No setup is required. The speed-control „learns“ the neutral, full-speed forward and full-speed reverse points while the car is running. Please note: Before you plug in the drive battery, set the transmitter to neutral position and then start the model in the forward direction.



- If you have made a mistake so far, don't worry: Unplug the battery for about 10 seconds and start over again.
- After the run, first unplug the battery and then switch off the transmitter. When you start again, first switch on the transmitter and then plug in the battery.

Installation Guide

- Position the speedo where is protected in the event of a crash and gives you easy access to the connectors.
- Mount the speedo using the supplied thick/black doubled-sided tape
- Make sure there is enough clearance between the speed-control, power-wires, antenna and receiver. Avoid any direct contact between power components, the receiver or the antenna as this can cause interference. If interference occurs, position the components at a different place in the model.
- The aerial should be run vertically up and away from the receiver. Avoid contact with any parts made of carbon fibre or metal. If the aerial is too long, don't coil up the excess length. See also the instructions supplied with your radio control system.

Connections:

- Connect the speedo to the receiver (position: Channel 2).
- Connect the speedo to the motor (blue = minus / yellow = plus).

Doublecheck all connections before connecting the speed-control to a battery.

Caution: If battery is connected with reversed polarity it will destroy your speed-control!

- Connect speedo to battery --> your speed-control is now ready to be used!

Special Features

AUTOMATIC SETUP: there is no need for a manual setup of the speed-control by pushbuttons. All you need to do is simply plug in the speed-control and you're ready to go! The speed-control „learns“ the neutral, full-speed forward and full-speed reverse points of your radio system while the car is running. This way, the speed-control has the optimized setup for every run - automatically. Incorrect or unperfect setups are a thing of the past!

FAIL-SAFE SYSTEM: Digital protection against radio interference, „The guardian angel“. The safety electronic can detect reception of a „false“ or incomplete radio signal, e.g. due to a low transmitter battery or environmental radio interference which reach the model, or if the model is out of the transmitter range. For protection against damage, the speed-control switches to the neutral position, and the model comes to a stop.

REVERSE OPERATION: No reverse time limit!

MULTI-PROTECTION SYSTEM, 3-way Protection

This unique monitoring software is the perfect protection for the speed-control against short-circuits (motor), overload and overheating. If your speed-control is ever faced with overload, the motor function is switched off for protection, although the steering function is maintained. Wait a few minutes to allow the speed-control to cool down. If the speed-control switches off frequently, either the motor used is too strong, the motor pinion is too big or you are using full brake too often. You can improve this if you make additional cooling slots in the body.

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, undue interference or mechanical damage.

„This applies among other things on:

- Cut off original power plug or not using reverse polarity protected plugs
- Receiver wire and/or switch wire damaged
- Mechanical damage of the case
- Mechanical damage of electronic components/PCB
- Soldered on the PCB (except on solderpads)
- Connected speed-control with reversed polarity“

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.

With LRP 25-Years Warranty products, the warranty terms on the LRP 25-Years Warranty card do also apply. The legal warranty claims, which arose originally when the product was purchased, shall remain unaffected.

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.



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.