



## VXL-4s Electronic Speed Control Instructions

Covers Part #3465



### FIRE HAZARD!

The VXL-4s electronic speed control requires use of Lithium Polymer (LiPo) batteries with nominal voltage not to exceed 16.8 volts (3s/4s packs). Charging and discharging batteries has the potential for fire, explosion, serious injury, and property damage if not performed per the instructions. In addition, LiPo batteries pose a SEVERE risk of fire if not properly handled per the instructions and require special care and handling procedures for long life and safe operation. LiPo batteries are intended only for advanced users that are educated on the risks associated with LiPo battery use. Traxxas does not recommend that anyone under the age of 18 use or handle LiPo battery packs without the supervision of a knowledgeable and responsible adult. Dispose of used batteries according to the instructions.

- The VXL-4s electronic speed control requires use of LiPo batteries. LiPo batteries have a minimum safe discharge voltage threshold that should not be exceeded. The VXL-4s electronic speed control is equipped with built-in Low-Voltage Detection that alerts the driver when LiPo batteries have reached their minimum voltage (discharge) threshold. It is the driver's responsibility to stop immediately to prevent the battery pack from being discharged below its safe minimum threshold.
- Low-Voltage Detection is just one part of a comprehensive plan for safe LiPo battery use. It is critical to follow all instructions for safe and proper charging, use, and storage of LiPo batteries. Make sure you understand how to use your LiPo batteries. If you have questions about LiPo battery usage, please consult with your local hobby dealer or contact the battery manufacturer. As a reminder, all batteries should be recycled at the end of their useful life.
- ONLY use a Traxxas iD charger to charge Traxxas iD batteries. ONLY use a Lithium Polymer (LiPo) balance charger with a balance adapter port to charge LiPo batteries. Never use NiMH or NiCad-type chargers or charge modes to charge LiPo batteries. DO NOT charge LiPo batteries with a NiMH-only charger. The use of a NiMH or NiCad charger or charge mode will damage LiPo batteries and may cause fire, personal injury, and/or property damage.
- ALWAYS inspect your LiPo batteries carefully before charging. Do not use or charge battery packs that have been damaged in any way (bent, dented, swollen, torn covering, or otherwise damaged).
- BEFORE you charge, ALWAYS confirm that the charger settings exactly match the type (chemistry), specification, and configuration of the battery to be charged. DO NOT exceed the maximum manufacturer recommended charge rate. DO NOT attempt to charge non-rechargeable batteries (explosion hazard), batteries that have an internal charge circuit or a protection circuit, or batteries that have been altered from original manufacturer

configuration, or batteries that have missing or unreadable labels, preventing you from properly identifying the battery type and specifications. ALWAYS use a Traxxas iD charger to charge Traxxas iD batteries. DO NOT use a non-Traxxas charger to charge Traxxas iD batteries. It is not recommended, but if you choose to use a non-Traxxas charger or battery, read and follow all of the manufacturer's warnings and instructions.

- While charging or discharging, ALWAYS place the battery (all types of batteries) in a fire retardant/fire proof container and on a non-flammable surface such as concrete.
- ALWAYS charge batteries in a well-ventilated area.
- Charge the battery in a safe area away from flammable materials. Monitor the charging process and never leave batteries unattended while charging. Do not allow small children to charge or handle LiPo batteries.
- DO NOT disassemble, crush, short circuit, or expose the batteries to flame or other source of ignition.
- DO NOT let any exposed battery contacts or wires touch each other. This will cause the battery to short circuit and create the risk of fire.
- DO NOT leave the charger and battery unattended while charging, discharging, or anytime the charger is ON with a battery connected. If there are any signs of a malfunction, unplug the power source and/or stop the charging process immediately.
- ALWAYS unplug the charger from the wall outlet and disconnect the battery when not in use.
- Never charge LiPo battery packs in series or parallel. Charging packs in series or parallel may result in improper charger cell recognition and an improper charging rate that may lead to overcharging, cell imbalance, cell damage and fire.
- If a battery gets hot to the touch during the charging process (temperature greater than 110°F / 43°C), immediately disconnect the battery from the charger and discontinue charging.
- DO NOT store or charge LiPo batteries with or around other batteries or battery packs of any type, including other LiPos.
- Store and transport your LiPo batteries in a cool dry place. DO NOT store in direct sunlight. DO NOT allow the storage temperature to exceed 140°F or 60°C, such as in the trunk of a car, or the cells may be damaged and risk of fire created. ALWAYS store battery packs safely out of the reach of children and pets.
- Keep a Class D fire extinguisher nearby in case of fire.
- DO NOT disassemble LiPo batteries or cells. DO NOT disassemble the charger.
- DO NOT attempt to build your own LiPo battery pack from loose cells.
- REMOVE the battery from your model or device before charging.
- DO NOT expose the charger to water or moisture.



Thank you for purchasing the Traxxas Velineon<sup>®</sup> VXL-4s electronic speed control. The Velineon VXL-4s forward/reverse electronic speed control simplifies brushless technology with easy, built-in profiles and intuitive programming. The VXL-4s uses advanced circuit design that allows sensorless brushless motors to operate with the smoothness and precision of the best brushless

systems. The VXL-4s comes with the peace-of-mind of the Traxxas Lifetime Electronics Warranty and unmatched Traxxas customer support. The VXL-4s is not a toy. It is a sophisticated electronic device capable of delivering large amounts of current. Children under 14 years of age require adult supervision for use of the VXL-4s. If you have questions or need assistance, call us at 1-888-TRAXXAS<sup>®</sup>.

#### Specifications:

|                            |  |
|----------------------------|--|
| Input voltage .....        | 3s/4s LiPo (max. 16.8 volts)                 |
| Supported motors .....     | Sensorless brushless                         |
| Battery connectors.....    | Traxxas High-Current Connector               |
| Motor connectors.....      | TRX 6.5mm bullet connectors                  |
| Motor/battery wiring ..... | 10-gauge Maxx <sup>®</sup> Cable             |
| Thermal protection.....    | 2-stage thermal shutdown                     |
| Case size (l/w/h) .....    | 59.4mm (2.34")/ 71.5mm (2.81")/ 49mm (1.93") |
| Weight.....                | 201g (7.1oz)                                 |

#### Profile Selection:

- Profile #1 (Sport Mode): 100% Forward, 100% Brakes, 100% Reverse
- Profile #2 (Race Mode): 100% Forward, 100% Brakes, No Reverse
- Profile #3 (Training Mode): 50% Forward, 100% Brakes, 50% Reverse

#### Important Precautions

##### VXL-4s Speed Control

- **Disconnect the Battery:** Always disconnect the battery from the speed control when not in use.
- **Insulate the Wires:** Always insulate exposed wiring with heat shrink tubing to prevent short circuits.
- **Transmitter on First:** Switch on your transmitter first before switching on the speed control to prevent runaways and erratic performance.
- **Don't Get Burned:** The ESC and motor can become extremely hot during use, so be careful not to touch them until they cool. Supply adequate airflow for cooling.
- **Use Traxxas High-Current Connectors:** Do not change the battery and motor connectors. Improper wiring can cause fire or damage to the ESC. Please note that modified speed controls can be subject to a rewiring fee when returned for service.
- **No Reverse Voltage:** The ESC is not protected against reverse polarity voltage.
- **No Schottky Diodes:** External Schottky diodes are not compatible with reversing speed controls. Using a Schottky diode with your speed control will damage the ESC and void the warranty.
- **Always** adhere to the minimum and maximum limitations of the speed control as stated in the specifications.

## Installation

The VXL-4s will install directly into most Traxxas models in the location of the original speed control. The VXL-4s can also be installed in the chassis with double-sided servo tape (part #1589, sold separately). When mounting the speed control with double-sided servo tape, clean both application surfaces thoroughly with alcohol. The surfaces must be perfectly clean for maximum adhesion.

### Here are some tips for choosing a location for the speed control:

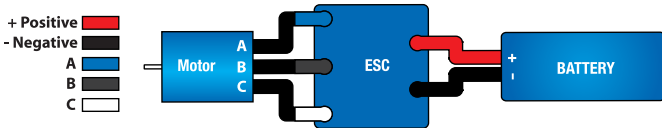
- Monitoring temperatures will extend the lives of the battery, motor, and speed control. To ensure the speed control does not enter premature thermal shutdown, install it in a well-ventilated location that will provide adequate airflow during use. The VXL-4s is equipped with a cooling fan to assist in cooling the speed control in high current motor applications.
- When mounting power components in a vehicle (wiring, motor, ESC), ensure that none of the parts come into contact with any part of the radio system, particularly the antenna wire. The receiver should be mounted so the antenna wire can be extended as far away from the speed control as possible. The antenna wire should be extended vertically in the mast and not wrapped on the chassis under the body. Excess antenna wire should not be coiled on the chassis. Servo cables and the antenna wire should not cross or come in contact with any of the motor or battery wires. These steps will help reduce the possibility of radio interference.
- Mount the speed control where it will be protected from crash damage. Also, protect the speed control from dirt and debris kicked up by the tires.
- Mount the speed control where you will have easy access to the plugs and the EZ-Set® button without having to remove the body.

## VXL-4s Wiring

The VXL-4s electronic speed control is capable of controlling sensorless brushless motors. The VXL-4s auto-detects the motor type and has numerous built-in safeguards to prevent damage from miswiring or damaged wiring.

### Sensorless brushless motors

Sensorless motors are the easiest and most reliable brushless motor type. The VXL-4s is optimized to deliver the smoothest possible sensorless motor performance. The Velineon 540XL 2400Kv is a sensorless brushless motor. The wiring (phase alignment) of the motor determines its direction of rotation. Refer to the wiring diagram below.



## Transmitter Setup

### Traxxas TQi Radio Systems

Before attempting to program your VXL-4s, it is important to make sure your TQi transmitter is properly adjusted (set back to the factory defaults). Otherwise, you may not get the best performance from your speed control.

The transmitter should be adjusted as follows:

1. Set the throttle neutral switch to the 50/50 setting. This adjusts the transmitter's throttle trigger throw to 50% for throttle and 50% for braking and reverse. Experienced users may wish to use the 70/30 setting if more broad proportional control is desired in forward than with braking and reverse. This might be desirable in a racing environment where reverse is disabled.
2. Set the throttle trim control to the middle 0 setting.
3. You are now ready to program your speed control.

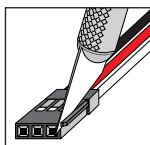
### Aftermarket (Non-Traxxas) Transmitters

The following instructions are provided as a general reference only for those who are using non-Traxxas transmitters. Consult your transmitter's instructions for information on how to change the settings.

1. Set the High ATV (adjustable travel volume) or EPA (end point adjustment) to the maximum setting. This is the amount of servo throw at full throttle.
2. Set the Low ATV, EPA or ATL (low side only trim adjustment) to the maximum setting. This is the amount of servo throw at full brakes or reverse.
3. Set the throttle trim to the middle (neutral setting).
4. Set the throttle channel reversing switch to either position. Do not change the switch position after programming.
5. Set the trigger throw adjustment to 50% throttle and 50% brake (either mechanical or electronic).
6. Set the exponential setting (if equipped) to the zero or fully linear setting.

### Aftermarket Receivers

The VXL-4s is compatible with most aftermarket receivers. By removing the tab on the edge of the power connector, the VXL-4s can be plugged directly into some models of Futaba®, Airtronics®, Hitec®, and JR® receivers. Please refer to the manufacturer's wiring diagrams that came with your receiver.



On the VXL-4s, the red wire is positive, the black wire is negative, and the white wire is the control wire. **WARNING:** On some older Airtronics® radio systems, the positive and negative terminals are opposite of the VXL-4s and an adapter is required. Crossing the red (+) and black (-) wires could damage the receiver and the VXL-4s. Study the manufacturer's wiring diagrams closely, or consult your hobby dealer.

## Low Voltage Detection

The VXL-4s electronic speed control is designed to operate on 3s or 4s LiPo battery power and is equipped with built-in two-stage Low Voltage Detection. When you turn your model on, the speed control's status LED is green, indicating that Low Voltage Detection is activated. The Low Voltage Detection circuitry constantly monitors the battery voltage and alerts the driver when LiPo batteries have reached their minimum voltage (discharge) threshold. It is the driver's responsibility to stop immediately to prevent the battery pack from being discharged below its safe minimum threshold. When the battery voltage becomes low (Stage 1), the VXL-4s will limit the power output to 50% throttle. The voltage LED (V) on the ESC will be solid red. Stop driving and recharge the batteries. If the battery voltage becomes critical, then the ESC will engage Stage 2 Low-Voltage Detection and the vehicle will stop. The voltage LED (V) on the ESC will flash red. The VXL-4s will stay in this mode until a fully charged battery is connected.

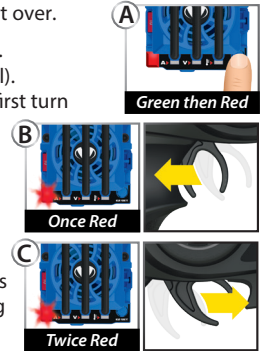
**DO NOT use NiMH batteries with the VXL-4s electronic speed control. The battery will become extremely hot and damage or injury could occur.**



## VXL-4s Setup Programming (Calibrating your ESC and transmitter)

Read through all of the programming steps before you begin. If you get lost during programming or receive unexpected results, simply unplug the battery, wait a few seconds, plug the battery back in, and start over.

1. Connect a fully charged battery pack to the VXL-4s.
2. Turn on the transmitter (with the throttle at neutral).
3. Press and hold the EZ-Set button (A). The LED will first turn green and then red. Release the EZ-Set button.
4. When the LED blinks RED ONCE, pull the throttle trigger to the full throttle position and hold it there (B).
5. When the LED blinks RED TWICE, push the throttle trigger to the full reverse and hold it there (C).
6. When the LED blinks GREEN ONCE, programming is complete. The LED will then shine green, indicating the VXL-4s is on and at neutral.



## VXL-4s Operation

To operate the speed control and test programming, place the vehicle on a stable block or stand so that all of the drive wheels are off the ground. Disconnect motor wires A and C, this will assure the motor does not drive the wheels during testing. Do not test programming without disconnecting the motor wires. *Note that in steps 1-7 below, Low Voltage Detection is ACTIVATED (factory default) and the LED shines green.*

1. With the transmitter on, press and release the EZ-Set button. The LED will shine green. This turns the VXL-4s on.
2. Apply forward throttle. The LED will turn off until full throttle power is reached. At full throttle, the LED will illuminate green.
3. Move the trigger forward to apply the brakes. Note that braking control is fully proportional. The LED will turn off until full braking power is reached. At full brakes, the LED will illuminate green.
4. Return the throttle trigger to neutral. The LED will shine green.
5. Move the throttle trigger forward again to engage reverse (Profile #1). The LED will turn off. Once full reverse power is reached, the LED will illuminate green.
6. Return the throttle trigger to neutral. (**Note:** There is programmed delay when changing from reverse to forward. This prevents damage to the transmission on high-traction surfaces.)
7. To turn the VXL-4s off, disconnect the battery.

## VXL-4s Profile Selection

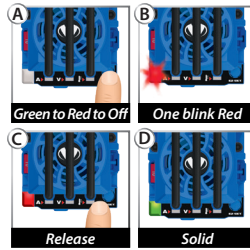
The speed control is factory set to Profile #1 (100% forward, brakes, and reverse). To disable reverse (Profile #2) or to allow 50% forward and 50% reverse (Profile #3), follow the steps below. The speed control should be connected to the receiver and battery, and the transmitter should be adjusted as described previously. The profiles are selected by entering the programming mode.

### Profile Description

- Profile #1 (Sport Mode): 100% Forward, 100% Brakes, 100% Reverse
- Profile #2 (Race Mode): 100% Forward, 100% Brakes, No Reverse
- Profile #3 (Training Mode\*): 50% Forward, 100% Brakes, 50% Reverse

### Selecting Sport Mode (Profile #1: 100% Forward, 100% Brakes, 100% Reverse)

1. Connect a fully charged battery pack to the VXL-4s and turn on your transmitter.
2. Press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red once, release the EZ-Set button.
4. The LED will blink and then turn solid green. The model is ready to drive.



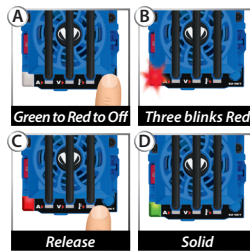
### Selecting Race Mode (Profile #2: 100% Forward, 100% Brakes, No Reverse)

1. Connect a fully charged battery pack to the VXL-4s and turn on your transmitter.
2. Press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red twice, release the EZ-Set button.
4. The LED will blink and then turn solid green. The model is ready to drive.



### Selecting Training Mode\* (Profile #3: 50% Forward, 100% Brakes, 50% Reverse)

1. Connect a fully charged battery pack to the VXL-4s and turn on your transmitter.
2. Press and hold the EZ-Set button until the LED turns solid green, then solid red and then begins blinking red (indicating the Profile numbers).
3. When the LED blinks red three times, release the EZ-Set button.
4. The LED will blink and then turn solid green. The model is ready to drive.



**Note:** If you missed the mode you wanted, keep the EZ-Set button pressed down and the blink cycle will repeat until the button is released and a Mode is selected.

### LED Codes and Protection Modes

The VXL-4s electronic speed control is equipped with sophisticated circuitry designed to help protect the electronics from damage caused by overloading and excessive temperatures. When a protection circuit is activated, an LED on the VXL-4s ESC will light, indicating a fault.

| EZ-SET | A | V | ⚡ | Explanation                          | Solution  |
|--------|---|---|---|--------------------------------------|---|
| █      | █ | □ | □ | Overcurrent Protection, Stage 1      | Stop driving; inspect the vehicle for overgearing or damage.  |
| █      | █ | █ | □ | Overcurrent Protection, Stage 2      | Stop driving; remove obstruction or move the vehicle to a smoother driving surface.                 |
| █      | □ | █ | □ | Low Voltage Protection, Stage 1      | Stop driving; inspect the battery and recharge.   |
| █      | □ | █ | █ | Low Voltage Protection, Stage 2      | Stop driving; inspect the battery and recharge.   |
| █      | □ | █ | □ | Overvoltage Protection               | Stop driving and disconnect the battery. Inspect the battery and confirm the battery voltage.       |
| █      | □ | □ | █ | Thermal Shutdown Protection, Stage 1 | Stop driving; inspect the cooling fan on the ESC. Allow the power system to cool before continuing. |
| █      | □ | □ | █ | Thermal Shutdown Protection, Stage 2 | Stop driving; inspect the cooling fan on the ESC. Allow the power system to cool before continuing. |
| █      | █ | █ | █ | Critical functioning error           | Contact Traxxas Customer Service.   |
| █      | █ | █ | █ | Programming error                    | Contact Traxxas Customer Service.   |



• **Solid Green:** VXL-4s power-on light. Low-Voltage Detection is ACTIVATED (LiPo setting).



• **Current LED (A) Solid Red:** The VXL-4s has entered **Overcurrent Protection, Stage 1**. When excessive current flow (amperage) is being routed through the power system caused by failure to use the appropriate gearing ratio for the drivetrain and the driving surface, the VXL-4s will limit the power output to 50% throttle. Make sure your model is properly geared for the driving conditions. Before continuing, inspect the vehicle for damage. To reset, disconnect and then reconnect the battery.



• **Current LED (A) Fast Blinking Red:** The VXL-4s has entered **Overcurrent Protection, Stage 2**. When the current flow (amperage) spikes temporarily due to a bound or restricted driveline (model is stuck against an object or encountered a restrictive driving surface), the VXL-4s will automatically shut down (fail-safe mode). Stop driving the vehicle. The VXL-4s will stay in this mode until the current flow is recovered (obstruction is removed, model is moved to a smoother driving surface) and the throttle is returned to neutral. Also, if the motor becomes damaged during driving, the VXL-4s will enter this mode any time the throttle is applied.



• **Voltage LED (V) Solid Red:** The VXL-4s has entered **Low Voltage Protection, Stage 1**. When the battery voltage begins to reach the minimum recommended discharge voltage threshold for LiPo battery packs, the VXL-4s will limit the power output to 50% throttle. Stop driving the vehicle. The VXL-4s will stay in this mode until the battery voltage is recovered or a fully charged battery is connected.



• **Voltage LED (V) Slow Blinking Red:** The VXL-4s has entered **Low Voltage Protection, Stage 2**. When the battery voltage attempts to fall below the minimum threshold, the VXL-4s will automatically shut down (fail-safe mode). The LED on the speed control will slowly blink red, indicating a low-voltage shutdown. Stop driving the model. The VXL-4s will stay in this mode until a fully charged battery is connected.



• **Voltage LED (V) Fast Blinking Red:** If the motor has no power, the VXL-4s has entered **Overvoltage Protection**. If the battery voltage from the connected battery packs is too high, the VXL-4s will go into a fail-safe mode. **WARNING:** If input voltage exceeds approximately 16.8 volts (maximum peak input voltage), the ESC may be damaged. Do not exceed 16.8 maximum total peak voltage. Stop driving the model and disconnect the battery.



• **Temperature LED (⚡) Solid Red:** The VXL-4s has entered **Thermal Shutdown Protection, Stage 1** to guard against overheating caused by excessive current flow. The VXL-4s will limit the power output to 50% throttle. Stop driving the model. Inspect the cooling fan on the ESC to make sure it is operating. Allow the power system to cool before continuing.



• **Temperature LED (⚡) Fast Blinking Red:** The VXL-4s has entered **Thermal Shutdown Protection, Stage 2** and has automatically shut down (fail-safe mode). Stop driving the model. Inspect the cooling fan on the ESC to make sure it is operating. Allow the power system to cool before continuing. If you are experiencing frequent warnings about temperature, it could be caused by overgearing (from stock), overly aggressive and continuous high speed driving, vehicle damage, or driving in conditions such as deep sand, heavy mud, and tall grass.



• **Current/Voltage/Temperature LEDs Solid Red or all LEDs Fast Blinking Red:** The VXL-4s has entered this protection mode due to possibly having Thermal Shutdown Protection and Low Voltage Protection (see above) occur at the same time or there is a critical functioning or programming error. Disconnect the battery and contact Traxxas Customer Service for assistance.

### Accessory Power Panel

The VXL-4s electronic speed control is equipped with a power panel that can be used to power optional accessories, such as LED light kits or additional cooling fans (see Traxxas.com for additional information). Always be sure to keep the panel cover installed when accessories are not being used to protect the pins from damage.





## Traxxas High Current Connector

Your VXL-4s is equipped with the Traxxas High-Current Connector. Standard connectors restrict current flow and are not capable of delivering the power needed to maximize the output of the VXL-4s. The Traxxas connector's gold-plated terminals with a large contact surface ensure positive current flow with the least amount of resistance. Secure, long-lasting, and easy to grip, the Traxxas connector is engineered to extract all the power your battery has to give.

To run this system, your batteries must be equipped with Traxxas High-Current Connectors. Batteries must be purchased new with Traxxas connectors installed. For best performance, your system requires LiPo battery packs that have cells rated for

high discharge and use high-quality, low-resistance assembly techniques. Cheaply made battery packs do not retain their performance characteristics after repeated uses in high-powered electric applications. They will lose their punch and run time and may require frequent replacement. In addition, poor-quality, high-resistance cell connectors could fail, requiring disassembly and repair. The main goal is to reduce all sources of high resistance in the pack. This includes the connector, the wire, and the bars attaching the cells together. High pack resistance will create additional heat and rob you of the full power the cells are capable of producing.

## Troubleshooting Guide

This guide describes possible speed control problems, causes, and simple solutions. Check these items before contacting Traxxas.

### Steering channel works but the motor will not run:

- The speed control has thermally shut down, indicated by a solid red temperature LED (Stage 1) or fast blinking red temperature LED (Stage 2). Allow the speed control to cool down. Use a milder motor or a smaller pinion gear. Check the drive train for restrictions. Check the motor connections. Check the motor.
- Make sure the speed control is plugged into the throttle channel of the receiver. Check operation of the throttle channel with a servo.
- Bad batter(ies) or motor, indicated by solid red voltage LED (Stage 1) or slow blinking red voltage LED (Stage 2). Check the operation with known good batter(ies) and motor.
- VXL-4s: Possible internal damage. Return the VXL-4s to Traxxas for service.

### Motor runs backwards:

- Motor wired backwards - Check the wiring and correct.

### Motor runs as soon as the battery is plugged in:

- Internal damage; return VXL-4s to Traxxas for service.

### VXL-4s will not go into programming mode:

- Make sure the VXL-4s is plugged into Channel 2 (the throttle channel) on the receiver. If it is plugged into the battery terminal, it will not go into programming mode.
- Be sure the VXL-4s is turned off before trying to program or select a profile.
- Unplug the batteries, reconnect, and repeat programming instructions.
- Check if transmitter is turned on.

## VXL-4s Warranty Information

Traxxas warrants your Traxxas electronic component to be free from defects in materials or workmanship for a period of thirty (30) days from the date of purchase. Before returning any product for warranty service, please contact our service department (1-888-TRAXXAS)\* to discuss the problem you are having with the product. After contacting Traxxas, send the defective unit along with your proof of purchase indicating the date purchased, your return address, e-mail, a daytime phone number, and a brief description of the problem to:

Traxxas  
6250 Traxxas Way  
McKinney, TX 75070

If the component is found to be defective, it will be repaired or replaced at no charge. The warranty does not cover damage caused by the following:

- Allowing foreign material to enter speed control or get onto PC board
- Using other than 3s/4s LiPo (max. 16.8 volts) input voltage
- Removing the stock battery connectors
- Using the same gender connectors on the speed control's motor and battery connections
- Cross-connection of the battery/motor(s)
- Reverse voltage application
- Incorrect installation or wiring
- Components worn by use
- Short-circuiting the heat sinks
- Use without the heat sinks
- Splices to the input wire harness

### Receiver glitches/throttle stutters during acceleration:

- The receiver or antenna is too close to power wires or the battery.
- Bad connections. Check the wiring and connectors.
- Motor worn. Replace the motor.
- Excessive current to motor (over-g geared motor). Use a smaller pinion gear.
- Battery voltage low. Recharge and/or verify charged status.
- Disconnected brushless motor lead. Reconnect according to appropriate wiring diagram.

### Model runs slowly / slow acceleration:

- Check the motor and battery connectors.
- Check to see if the VXL-4s is in Profile #3 (50% throttle).
- Bad batter(ies) or motor. Check the operation with known good batter(ies) and motor.
- Incorrect transmitter or speed control adjustment. Refer to the Transmitter Setup and VXL-4s Setup Programming sections.
- VXL-4s is in Thermal Shutdown Protection. Allow to cool and check for proper gearing.
- VXL-4s has entered Low-Voltage Protection.

### Model will not go in reverse:

- Make sure the throttle trim is in the correct position (LED on VXL-4s should be lit solid at neutral throttle).
- Check for correct VXL-4s profile (Profile #2 does not have reverse).

- Disassembling the case
- Excessive force when using the EZ-Set button
- Tampering with the internal electronics
- Incorrect wiring of a FET servo
- Allowing exposed wiring to short-circuit
- Any damage caused by crash, flooding, or act of God

In no case shall our liability exceed the product's original cost. We reserve the right to modify warranty provisions without notice. All warranty claims will be handled by Traxxas. Because Traxxas has no control over the use and future installations of the VXL-4s, no liability may be assumed nor will be accepted for damage resulting from the use of this product. Every ESC is thoroughly tested and cycled before leaving the Traxxas facility and is, therefore, considered operational. By the act of operating/connecting speed control, the user accepts all resulting liability. Traxxas makes no other warranties expressed or implied. This warranty gives you specific legal rights which vary from state to state. After the expiration of the standard 30-day warranty, use the Traxxas Lifetime Electronics Warranty to cover service and repairs. Documents and forms are provided with your VXL-4s.

If you have questions or need technical assistance, call Traxxas at

**1-888-TRAXXAS**

(1-888-872-9927) (U.S. residents only)