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GoolRC AX-D60A

GoolRC AX-D60A 60A Waterproof Brushed Electronic Speed Controller User Manual

MODEL: AX-D60A

1. Introduction

The GoolRC AX-D60A is a 60A waterproof brushed Electronic Speed Controller (ESC) designed for 1/10 scale RC cars, off-road trucks, and RC boats. It features a built-in 5V/2A Battery Eliminator Circuit (BEC) and multiple protection functions to ensure reliable operation and enhanced durability in various conditions.



Image: The GoolRC AX-D60A 60A Waterproof Brushed Electronic Speed Controller, showcasing its compact design and integrated wiring.

Key Features

- Suitable for 1/10 scale RC cars, off-road trucks, and RC boats.
- Compatible with brushed motors.
- Strong resistant current capability.
- Excellent heat dissipation.
- Multiple protection features: Low voltage cut-off, over-heat protection, throttle signal loss protection.

- Easily programmable (with optional program card).
- Waterproof design for use in wet conditions.

2. Safety Information

Please read and understand all safety precautions before operating the ESC to prevent injury or damage to the product and surrounding property.

- Always disconnect the battery from the ESC when not in use or during maintenance.
- Ensure correct polarity when connecting the battery. Incorrect connection can cause severe damage to the ESC and battery, and may lead to fire.
- Avoid short circuits on all connections. Use appropriate connectors and ensure they are securely attached.
- Operate the ESC within its specified voltage and current limits. Exceeding these limits can lead to overheating and permanent damage.
- Although waterproof, it is recommended to dry the ESC thoroughly after exposure to water to prevent long-term corrosion.
- Adult supervision is recommended for users under 14 years of age.
- In case of malfunction, immediately disconnect power and consult the troubleshooting section or contact customer support.

3. Package Contents

The package includes the following item:

- 1 x GoolRC AX-D60A 60A Brushed Electronic Speed Controller

4. Specifications

Detailed technical specifications for the GoolRC AX-D60A ESC:

Parameter	Value
Item Name	Brushed ESC
Material	Metal
Continuous Current	60A
Burst Current	120A
Back Off Current	45A (60A MAX)
Power Supply	2S LiPo, 6~8S (7.2-9.6V) NiMh battery
BEC Output	5V/2A (5V/3A MAX)
Dimensions	44mm x 34mm x 20mm
Weight	48g



Image: The physical dimensions of the GoolRC AX-D60A ESC, measuring 44mm in length, 34mm in width, and 20mm in height.

5. Setup

Follow these steps to correctly install and wire your GoolRC AX-D60A ESC into your RC vehicle.

Wiring Diagram



Image: This diagram illustrates the connection points for the battery, receiver, motor, and the power switch on the GoolRC AX-D60A ESC.

Installation Steps

1. **Connect Battery:** Connect your 2S LiPo or 6-8S NiMh battery to the ESC's power input wires (red and black, typically with a T-plug connector). Ensure correct polarity (red to positive, black to negative).
2. **Connect Motor:** Connect the brushed motor wires to the corresponding output wires from the ESC (typically blue and yellow). If the motor spins in the wrong direction during initial testing, reverse these two connections.
3. **Connect Receiver:** Plug the ESC's signal cable (usually a three-wire servo connector) into the throttle channel (CH2) of your RC receiver.
4. **Power Switch:** Ensure the power switch is mounted in an accessible location on your RC vehicle for easy on/off control.
5. **Mounting:** Securely mount the ESC in your RC vehicle using double-sided tape or other appropriate mounting hardware. Ensure adequate airflow around the ESC for optimal cooling during operation.

6. Operating Instructions

ESC Calibration (Throttle Range)

It is crucial to calibrate the ESC's throttle range with your radio transmitter for proper operation. This ensures the ESC correctly interprets your transmitter's throttle signals. Refer to your radio transmitter's manual for specific instructions on throttle calibration, as procedures can vary. Generally, the process involves:

1. Turn on your transmitter and ensure the throttle trim is at the neutral position.
2. Connect the battery to the ESC while holding the throttle trigger at full throttle (maximum forward position).
3. The ESC will emit a series of beeps, indicating it has detected the full throttle signal.
4. Move the throttle trigger to full brake (maximum reverse position).
5. The ESC will emit another series of beeps, indicating it has detected the full brake signal.
6. Return the throttle trigger to the neutral position. The ESC should now be calibrated and ready for use, indicated by a final confirmation beep or LED status.

Programming the ESC

The GoolRC AX-D60A ESC is easily programmable to fine-tune its performance characteristics. While specific programming steps are not detailed here, it is compatible with a pocket-sized program card (sold separately) for adjusting various parameters. These parameters typically include:

- **Running Mode:** Adjust between Forward/Brake/Reverse or Forward/Brake only.
- **Drag Brake Force:** Sets the automatic braking applied when the throttle returns to neutral.
- **Low Voltage Cut-off Threshold:** Configures the voltage level at which the ESC reduces power to protect the battery.
- **Start Mode (Punch):** Controls the initial acceleration response.
- **Maximum Brake Force:** Sets the maximum braking power.
- **Reverse Force:** Adjusts the power applied in reverse.
- **Neutral Range:** Defines the dead band around the neutral throttle position.

Consult the program card's manual for detailed instructions on parameter adjustment and specific values.

7. Maintenance

Proper care and maintenance will extend the lifespan and ensure optimal performance of your GoolRC AX-D60A ESC.

- **Cleaning:** After each use, especially in dusty, dirty, or wet environments, gently clean the ESC with a soft brush or compressed air. Ensure no debris obstructs the heatsink fins, which are crucial for heat dissipation.
- **Inspection:** Regularly inspect all wires, connectors, and the ESC casing for signs of wear, damage, or corrosion. Pay close attention to solder joints. Replace any damaged components immediately to prevent further issues.
- **Storage:** Store the ESC in a dry, cool place away from direct sunlight, extreme temperatures, and corrosive materials.
- **Waterproof Feature:** While the ESC is waterproof, it is good practice to dry it thoroughly after exposure to water. This helps prevent long-term corrosion of connectors and internal components, especially if the water contains impurities.

8. Troubleshooting Guide

This section provides solutions to common issues you might encounter with your GoolRC AX-D60A ESC.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Motor does not run	No power to ESC	Check battery connection and charge level. Ensure power switch is ON.
Motor does not run	ESC not calibrated	Perform throttle range calibration as described in Section 6.
Motor runs in wrong direction	Motor wires reversed	Reverse the motor wire connections between the ESC and motor.
ESC overheats	Excessive load or poor ventilation	Reduce load (e.g., smaller pinion gear), ensure adequate airflow around the ESC, check motor for binding or damage.
Vehicle stops unexpectedly	Low voltage cut-off activated	Recharge or replace the battery. Check battery health.
No throttle response	Throttle signal loss or interference	Check receiver and transmitter connection, ensure transmitter is on and battery is charged. Move away from sources of interference.
Erratic operation	Interference or faulty connections	Check all wiring for loose connections, ensure antenna is properly positioned, move away from interference sources.

If the problem persists after following these steps, please contact GoolRC customer support for further assistance.

9. Warranty and Customer Support

GoolRC products are designed for performance and reliability. For specific warranty information, technical support, or service inquiries, please refer to the official GoolRC website or contact your local dealer. It is recommended to keep your purchase receipt as proof of purchase for any warranty claims.

For further assistance and product information, you may also visit the [GoolRC Store on Amazon](#).