Hobbywing MAX6 G2 + 4990SD 1650KV G2

EzRun MAX6 G2 Combo (MAX6 G2 + 4990SD 1650KV G2) User Manual

Brand: Hobbywing | Model: MAX6 G2 + 4990SD 1650KV G2

Introduction

This manual provides essential information for the proper use, setup, operation, and maintenance of your Hobbywing EzRun MAX6 G2 Combo. Please read this manual thoroughly before operating the product to ensure optimal performance and safety.
The EzRun MAX6 G2 Combo features an innovative waterproof sensor interface, enhancing overall waterproof and dustproof performance, making it suitable for harsh conditions. It includes a built-in ultra-powerful switch mode BEC with continuous current of 8A and instant 25A, supporting 6V/7.4V/8.4V switching for a wide range of powerful and high-voltage servos. The system supports turbo timing settings for remarkable timing response when paired with matching motors. Multiple protection functions are integrated, including battery low voltage, ESC and motor overheat, signal loss, and current protection. A built-in Bluetooth function allows direct connection to a mobile app for setting parameters, data logging, and firmware upgrades.

Safety Information

It is crucial to adhere to the following safety guidelines to prevent damage to the product and ensure user safety:

- Before using this product, read the instruction manual carefully. Ensure that the equipment is used appropriately to avoid damaging the ESC. Incorrect usage can lead to overheating and damage to the electronics.
- It is important to ensure that all wires soldered are properly secured to avoid short circuits. A good soldering station is recommended for this task to prevent overheating the circuit board and to ensure proper connections.
- Even though the product has relevant protective measures, always use it in a safe manner in accordance with the operating environment noted in the manual (e.g., voltage, current, temperature, etc.).
- Always remember to disconnect the battery after each use. Failure to do so will cause the battery to be completely discharged, potentially leading to unpredictable dangers.

What's in the Box

Upon unboxing your EzRun MAX6 G2 Combo, you should find the following components:

- (1) Ezrun MAX6 G2 ESC
- (1) Ezrun Brushless Motor
- (1) User's manual



Image: The EzRun MAX6 G2 ESC and the 4990SD 1650KV G2 motor, showing their compact design and robust construction. The ESC features cooling fins and a fan, while the motor has a ribbed casing for heat dissipation.

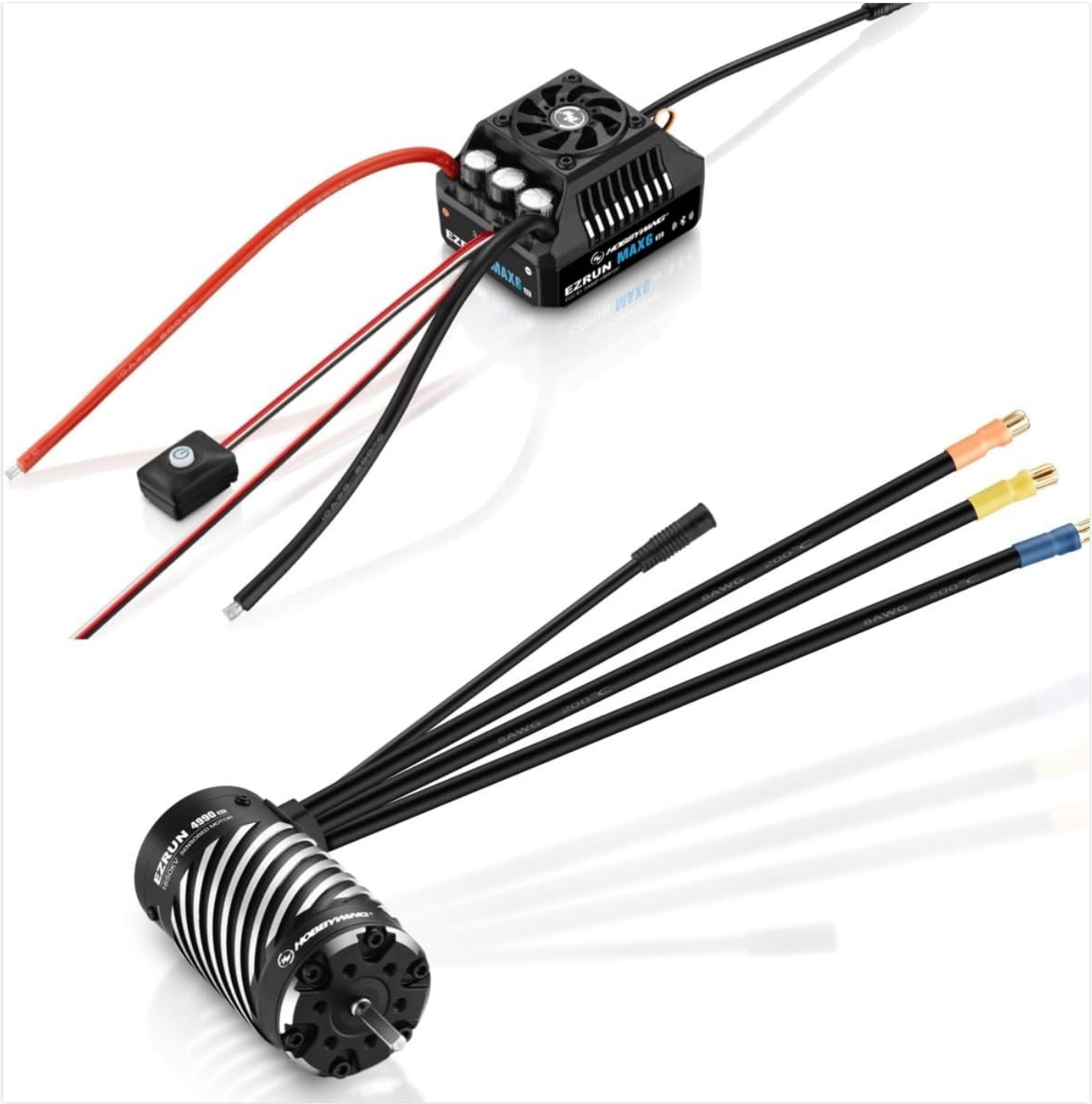


Image: A view of the EzRun MAX6 G2 ESC and 4990SD 1650KV G2 motor, highlighting the various wires and connectors for power, motor phases, and sensor connections. This illustrates the complete set of components included in the combo.

Key Features

- **Waterproof Sensor System:** The MAX6 G2 features Hobbywing's new waterproof sensor system, also supporting sensorless operation. Rated up to 200 amps, it is designed for high-powered builds, offering powerful, smooth, and linear control across the entire RPM range.
- **Intelligent Freewheeling Technology:** Innovative technology reduces heat generated by the ESC, increasing overall efficiency and improving temperature performance, stability, and reliability of drive components.
- **Built-in Bluetooth Module:** Connects directly to a mobile phone app for parameter setting, data reading, and firmware upgrades without additional devices, simplifying user interaction.
- **Powerful BEC:** Features a built-in ultra-powerful switch mode BEC delivering a continuous current of 8A (instant 25A), supporting 6V/7.4V/8.4V switching for compatibility with a wide range of powerful and high-voltage servos.

- **Multiple Protection Functions:** Includes battery low voltage protection, ESC and motor overheat protection, signal loss protection, and current protection for enhanced safety and longevity.
- **Data Logging:** Enables users to view various running data on the HW LINK app, providing valuable insights into performance.
- **Enhanced Waterproof Sensor Interface:** Improves overall waterproof and dustproof performance, allowing the unit to handle harsh conditions like sediment, ice, snow, and water accumulation.

Setup Guide

1. Mounting the ESC and Motor

- **ESC Mounting:** Securely mount the EzRun MAX6 G2 ESC in your vehicle using double-sided tape or screws, ensuring adequate airflow for cooling. Position it away from excessive heat sources.
- **Motor Mounting:** Install the 4990SD 1650KV G2 motor into your vehicle's motor mount. Ensure proper gear mesh between the motor pinion and the spur gear. Adjust the motor position to achieve optimal gear mesh, which is crucial for efficiency and preventing premature wear.

2. Wiring Connections

- **Motor Wires:** Connect the three motor phase wires (A, B, C) from the ESC to the corresponding motor terminals. Ensure correct polarity if using a sensored motor.
- **Sensor Cable:** If using the sensored mode, connect the sensor cable from the motor to the sensor port on the ESC. Ensure the connector is fully seated and oriented correctly.
- **Battery Connector:** Solder a high-quality battery connector (e.g., XT90, EC5) to the ESC's power input wires, matching the connector type of your battery packs. Ensure correct positive (+) and negative (-) polarity.
- **Receiver Cable:** Plug the ESC's throttle cable (usually a black, red, white wire) into the throttle channel (CH2) of your RC receiver.
- **Cooling Fan:** Ensure the cooling fan on the ESC is properly connected and free from obstructions.

3. ESC Calibration

Before first use, the ESC must be calibrated to your radio system's throttle range. Refer to the detailed instructions in the included user manual for the specific calibration procedure. This typically involves:

1. Turning on your transmitter and setting throttle trim to neutral.
2. Holding the ESC's SET button while powering on the ESC.
3. Releasing the button when the LED flashes.
4. Setting neutral, full throttle, and full brake positions on your transmitter as prompted by the ESC's LED/beeps.

Operating Instructions

1. Powering On/Off

- **Power On:** Connect the battery to the ESC. Turn on your radio transmitter first, then switch on the ESC.
- **Power Off:** Always switch off the ESC first, then turn off your radio transmitter. Disconnect the battery from the ESC.

2. Driving Tips

- **Initial Runs:** For the first few runs, operate the vehicle at moderate speeds to ensure all components are

functioning correctly.

- **Temperature Monitoring:** Regularly check the temperature of the ESC and motor during operation. If temperatures exceed safe limits (refer to specifications), reduce load or adjust gearing.
- **Battery Management:** Pay attention to the battery low voltage protection. Stop operation when the ESC indicates low voltage to prevent over-discharging your battery.

3. Bluetooth Connectivity and App Usage

The EzRun MAX6 G2 features a built-in Bluetooth module for easy parameter adjustment and data logging via the Hobbywing HW LINK app.

- **Download App:** Download the "HW LINK" app from your mobile device's app store.
- **Connect:** Power on the ESC. Open the HW LINK app and search for your ESC. Connect to the device. You may need to place your device close to the ESC for initial connection.
- **Adjust Parameters:** Use the app to fine-tune various ESC parameters such as punch, brake force, timing, and more.
- **Data Logging:** Access the data logging function to review real-time and historical operational data, including temperatures, RPM, and voltage.
- **Firmware Update:** The app also allows for convenient firmware updates to ensure your ESC has the latest features and performance enhancements.

Maintenance

Regular maintenance ensures the longevity and optimal performance of your EzRun MAX6 G2 Combo.

- **Cleaning:** After each use, especially in dusty or wet conditions, clean the ESC and motor. Use a soft brush or compressed air to remove dirt and debris. For the ESC, ensure the cooling fan is clear.
- **Inspection:** Periodically inspect all wires and connectors for signs of wear, fraying, or corrosion. Ensure all connections are secure. Check the motor bearings for smooth operation.
- **Storage:** When not in use, store the ESC and motor in a clean, dry place away from direct sunlight and extreme temperatures. Disconnect batteries before storage.
- **Firmware:** Keep the ESC firmware updated using the HW LINK app to benefit from performance improvements and bug fixes.

Troubleshooting

This section provides solutions to common issues you might encounter with your EzRun MAX6 G2 Combo.

Problem	Possible Cause	Solution
ESC does not power on.	Battery not connected, battery discharged, faulty power switch, incorrect wiring.	Check battery connection and charge level. Inspect power switch and wiring for damage.
Motor not responding or erratic.	Incorrect ESC calibration, motor wires loose/incorrectly connected, sensor cable issue, faulty motor.	Recalibrate ESC. Check all motor and sensor wire connections. Inspect motor for damage.

Problem	Possible Cause	Solution
ESC/Motor overheating.	Over-gearing, excessive load, insufficient cooling, faulty fan.	Reduce pinion size or increase spur size. Reduce vehicle load. Ensure proper airflow and fan operation.
Vehicle runs slowly or lacks power.	Low battery voltage, incorrect ESC settings, motor issue.	Charge battery. Check ESC parameters via HW LINK app (e.g., punch, timing). Inspect motor.
Bluetooth connection issues.	App not updated, ESC not powered on, interference, distance.	Ensure app is updated. Power on ESC. Reduce distance between device and ESC. Try restarting app/device.

Specifications

Feature	Detail
Brand	Hobbywing
Model	MAX6 G2 + 4990SD 1650KV G2
Power Source	Battery Powered
Color	Black
Engine Type	Electric
Number of Speeds	3
Voltage	7.4 Volts (DC)
UPC	088718507646
Product Dimensions	9 x 3.9 x 6.5 inches
Item Weight	2.93 pounds
Item Model Number	38010803 | 38010804
Manufacturer Recommended Age	3 years and up
Manufacturer	Hobbywing Technology

Warranty and Support

For detailed warranty information and technical support, please refer to the official Hobbywing website or contact Hobbywing customer service directly. Warranty terms typically cover manufacturing defects for a specified period from the date of purchase. Keep your proof of purchase for warranty claims.
For further assistance, you may visit the Hobbywing Official Website.

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Example: How do I reset this device or fix this error?

Details

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