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Hobbywing HWI81040090

HobbyWing X5A Combo User Manual

Xerun-120A-Sd ESC, Sensored 8.5T Motor, Multifunction Program Box

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your HobbyWing X5A Combo. This high-performance power system is designed for 1/10 scale RC vehicles, offering excellent control and reliability. The combo includes the Xerun-120A-Sd Electronic Speed Controller (ESC), a Sensored 8.5T Motor, and a Multifunction Program Box for easy configuration.

2. Package Contents

Upon opening the package, please verify that all components listed below are present and in good condition:

- HobbyWing Xerun-120A-Sd Electronic Speed Controller (ESC)
- HobbyWing Sensored 8.5T Brushless Motor
- HobbyWing Multifunction LCD Program Box
- Sensor Cable
- Capacitor Module
- Various Wires and Connectors
- Mounting Accessories (e.g., double-sided tape, zip ties, heat shrink tubing)

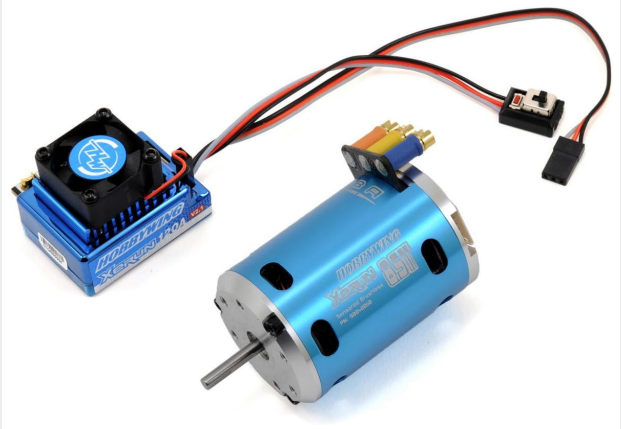


Figure 2.1: The HobbyWing Xerun-120A-Sd Electronic Speed Controller

(left) and the Sensored 8.5T Brushless Motor (right), which form the core of the X5A Combo.



Figure 2.2: The Multifunction LCD Program Box, used for adjusting ESC parameters and firmware updates, shown with its USB connection cable.

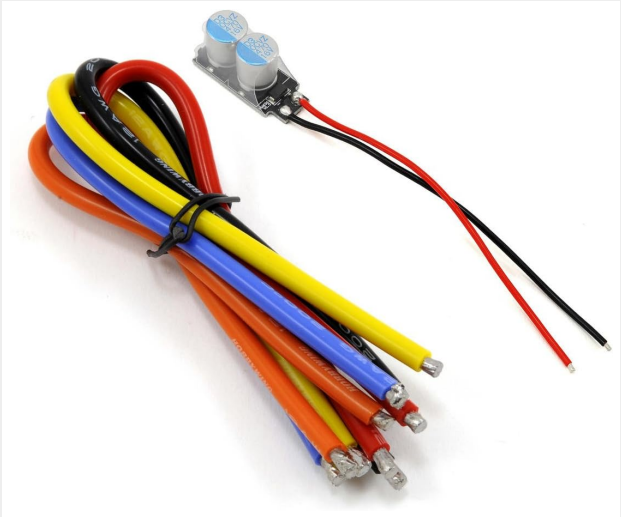


Figure 2.3: Included capacitor module (top right) and a bundle of high-quality wires (bottom left) for various connections within your RC setup.



Figure 2.4: Essential mounting accessories: two black zip ties, red and black heat shrink tubing, and a piece of double-sided adhesive foam tape for secure component installation.



Figure 2.5: The sensor cable, crucial for connecting the sensored motor to the ESC, ensuring precise motor control and smooth operation.

3. Setup and Installation

3.1 ESC Installation

1. **Mounting:** Securely mount the Xerun-120A-Sd ESC in your vehicle using the provided double-sided tape. Ensure adequate airflow around the ESC for cooling.
2. **Motor Connection:** Connect the three motor wires from the ESC to the motor. For sensored operation, connect the sensor cable from the ESC to the motor's sensor port. Ensure correct phase alignment (A-A, B-B, C-C).
3. **Battery Connection:** Connect your battery pack to the ESC's battery input wires. Ensure correct polarity (red to positive, black to negative). Incorrect polarity will damage the ESC.
4. **Receiver Connection:** Plug the ESC's throttle cable into the throttle channel (usually Channel 2) of your receiver.
5. **Capacitor Module:** If not pre-installed, connect the capacitor module to the designated port on the ESC. This helps stabilize power delivery.

3.2 Motor Installation

- **Mounting:** Install the 8.5T Sensored Motor into your vehicle's motor mount. Ensure proper gear mesh between the pinion and spur gear.
- **Wiring:** Connect the motor wires to the ESC as described above.

3.3 Program Box Connection

The Multifunction LCD Program Box can be connected to the ESC via the fan port or a dedicated program port (if available) for parameter adjustment. For PC connectivity, use the provided USB cable.

4. Operating Instructions

4.1 ESC Calibration

Before first use, the ESC must be calibrated to your radio system's throttle range:

1. Turn on your transmitter and ensure throttle trim is at neutral.
2. With the ESC off, hold down the SET button on the ESC.
3. Turn on the ESC. Release the SET button when the LED flashes.
4. Set throttle to full forward, press SET.

5. Set throttle to full reverse, press SET.
6. Set throttle to neutral, press SET.
7. The ESC will confirm calibration with a series of beeps.

4.2 Using the Program Box

The Multifunction LCD Program Box allows for easy adjustment of various ESC parameters such as cut-off voltage, drag brake, punch, and timing. Refer to the program box's specific manual for detailed navigation and parameter descriptions.

5. Maintenance

- **Cleaning:** Regularly clean the ESC and motor to remove dirt, dust, and debris. Use a soft brush or compressed air. Avoid using liquids.
- **Inspections:** Periodically inspect all wires and connectors for signs of wear, fraying, or corrosion. Ensure all connections are secure.
- **Motor Bearings:** Check motor bearings for smooth operation. Replace if they feel rough or noisy.
- **Cooling Fan:** Ensure the ESC's cooling fan is free of obstructions and operating correctly.
- **Storage:** When not in use, store the components in a dry, cool place away from direct sunlight and extreme temperatures.

6. Troubleshooting

Problem	Possible Cause	Solution
ESC does not power on.	Battery not connected or discharged; incorrect polarity; faulty switch.	Check battery connection and charge; verify polarity; inspect switch.
Motor stutters or runs rough.	Incorrect motor/ESC wiring; sensor cable issue; motor timing incorrect.	Verify motor phase and sensor cable connections; adjust motor timing via program box.
No throttle response.	ESC not calibrated; receiver not powered; throttle channel incorrect.	Perform ESC calibration; check receiver power and connection; ensure ESC is plugged into correct receiver channel.
ESC overheats.	Insufficient airflow; excessive load; incorrect gearing.	Improve ventilation; reduce load; adjust gearing (smaller pinion/larger spur).

7. Specifications

Feature	Detail
Product Model Number	HWI81040090
Brand	HobbyWing
ESC Model	Xerun-120A-Sd
Motor Type	Sensored Brushless 8.5T

Feature	Detail
Program Device	Multifunction LCD Program Box
Recommended Age	16 years and up
Product Dimensions	5.81 x 6.25 x 2 inches
Item Weight	1.05 pounds
UPC	088718510042

8. Warranty and Support

For warranty information and technical support, please refer to the official HobbyWing website or contact your local distributor. Keep your purchase receipt as proof of purchase for any warranty claims.
Manufacturer: HRP Distribution
Date First Available: July 17, 2014

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