HOBBYWING HW81020171

HOBBYWING XeRUN 120A SD V2.1 Brushless ESC User Manual

Model: HW81020171

1. Introduction and Overview

The HOBBYWING XeRUN 120A SD V2.1 Brushless Electronic Speed Controller (ESC) is designed for high-performance remote control vehicles, including touring cars, off-road cars, and drift cars. It features a built-in cooling fan to ensure optimal performance even under extreme racing conditions. This ESC offers extensive adjustability to fine-tune your vehicle's performance.

Key adjustable parameters include LiPo cut-off voltage, reverse ON/OFF, brake feel, acceleration, and fixed electronic timing. For advanced customization, firmware updates and variable timing settings can be achieved by connecting the ESC to a separately sold 2-in-1 program box and a PC. Please note that a 2-in-1 program box is essential for firmware updates and program setting changes.



Image: The HOBBYWING XeRUN 120A SD V2.1 Brushless ESC, a compact black unit featuring a top-mounted cooling fan and various connection ports for motor, battery, and receiver.

2. Features

- Supports both sensored and sensorless brushless motors, offering versatility for various setups.
- User-programmable with numerous adjustable items, allowing adaptation to diverse racing conditions and driving styles.
- Easy program changes can be made directly via the ESC's built-in set key.
- Compatible with the Digital LED Program Card and the 2-in-1 Professional LCD Program Box for comprehensive programming.
- Incorporates multiple protection functions for enhanced safety and durability:
  - Low voltage cut-off protection to prevent battery over-discharge.
  - Over-heat protection to safeguard the ESC from thermal damage.
  - Throttle signal loss protection for safe operation in case of signal interruption.
  - Motor block protection to prevent damage when the motor is stalled.
- Designed to be resistant to the effects of water droplets and dust, enhancing reliability in various environments.

3. Setup

3.1. Connections

1. **Motor Connection:** Connect the three motor wires (A, B, C) from the ESC to the corresponding motor terminals. Ensure correct phasing for sensored motors.
2. **Battery Connection:** Connect the ESC's power input wires (red for positive, black for negative) to your battery pack. Ensure correct polarity.
3. **Receiver Connection:** Plug the ESC's throttle cable into the throttle channel (usually Channel 2) of your receiver.
4. **Cooling Fan Connection:** Ensure the cooling fan is securely connected to the designated fan port on the ESC.

3.2. Throttle Range Calibration

Before first use, or after changing your radio system, the ESC's throttle range must be calibrated to match your transmitter's output. Refer to the detailed calibration procedure in the full manual or the HOBBYWING website for precise steps.

3.3. Programming

The ESC can be programmed using the set key, a Digital LED Program Card, or the 2-in-1 Professional LCD Program Box. The program box offers the most comprehensive control over settings. Connect the program box to the ESC's program port and follow the on-screen instructions to adjust parameters such as running mode, brake force, voltage cut-off, and timing.

4. Operating Instructions

4.1. Powering On/Off

- **Power On:** Ensure all connections are secure. Turn on your transmitter first, then turn on the ESC by pressing its power button.
- **Power Off:** Turn off the ESC first, then turn off your transmitter.

4.2. Driving

Once powered on and calibrated, the ESC will respond to your transmitter's throttle input. Apply throttle for forward

movement, and brake/reverse as configured in the ESC settings. Always operate your RC vehicle in a safe and responsible manner.

5. Maintenance

- **Cleaning:** Regularly clean the ESC and cooling fan to remove dust, dirt, and debris. Use a soft brush or compressed air. Avoid using solvents or harsh chemicals.
- **Inspection:** Periodically inspect all wires, connectors, and the ESC casing for any signs of damage, wear, or loose connections.
- **Storage:** Store the ESC in a dry, cool place away from direct sunlight and extreme temperatures when not in use.
- **Firmware Updates:** Check the official HOBBYWING website periodically for new firmware versions. Updating firmware can improve performance and add new features.

6. Troubleshooting

Problem	Possible Cause	Solution
ESC does not power on.	Battery not connected, low battery voltage, faulty power switch.	Check battery connection and charge level. Inspect power switch.
Motor not responding to throttle.	Incorrect throttle calibration, loose motor/receiver wires, transmitter off.	Perform throttle calibration. Check all connections. Ensure transmitter is on.
ESC overheats.	Overgearing, motor too large, insufficient cooling, excessive load.	Check gearing. Ensure cooling fan is working. Reduce load or consider a different motor.
Motor stutters or runs rough.	Incorrect motor wiring, sensor cable issue (for sensored motors), motor damage.	Verify motor wire connections. Check sensor cable. Inspect motor for damage.

If you encounter issues not listed here, or if the suggested solutions do not resolve the problem, please contact HOBBYWING customer support or consult the official product support resources.

7. Specifications

Attribute	Value
Product Model Number	HW81020171
Dimensions (Package)	13.3 x 8.9 x 5.9 cm
Weight (Package)	180 g
Manufacturer	HOBBYWING
ASIN	B00C7GHSTQ

8. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the official HOBBYWING website or contact your local distributor. Keep your proof of purchase for any warranty claims. HOBBYWING continuously strives to provide high-quality products and support to its customers.

Official HOBBYWING Store: Visit HOBBYWING Store on Amazon.co.jp

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