HOBBYWING 30201400

Hobbywing FLYFUN 120A 6S V5 ESC Instruction Manual

Introduction Features Specifications Setup Operating Maintenance Troubleshooting Warranty & Support

1. Introduction

This manual provides essential instructions for the proper installation, operation, and maintenance of your Hobbywing FLYFUN 120A 6S V5 Electronic Speed Controller (ESC). This ESC is designed for use in remote-controlled aircraft, managing motor speed and power delivery. Please read this manual thoroughly before use to ensure safe and efficient operation.

Figure 1: Hobbywing FLYFUN 120A 6S V5 Electronic Speed Controller. This image displays the Hobbywing FLYFUN 120A 6S V5 ESC, an electronic speed controller designed for RC aircraft. It features a compact design with visible power and motor leads.

2. Key Features

- **DEO Technology / Active Freewheeling:** Enhances throttle response, improves flight stability and flexibility,

increases driving efficiency for longer flight times, and reduces ESC temperature for reliable operation.

- **Soft Start-ups:** Provides smooth motor initiation.
- **High-power BEC:** Features a switch-mode BEC with continuous/peak current of 8A/20A. Voltage is adjustable among 5.2V, 6.0V, and 7.4V, supporting multiple electronic devices such as servos, flight controllers, and on-board lights.
- **Multiple Protections:** Includes safeguards against start-up issues, over-current, ESC thermal overload, capacitor thermal issues, general overload, throttle signal loss (Fail Safe), and abnormal input voltage. These features contribute to the extended service life of the ESC.

3. Specifications

Parameter	Value
Model Number	30201400
Continuous Current	120A
Peak Current	150A
Input Voltage	3-6S LiPo
BEC Output	Switch Mode: 5.2V/6V/7.4V, 8A Continuous / 20A Peak
Input Wire	12AWG-150mm
Output Connector	4.0 Gold Connectors (Female)
Dimensions (L x W x H)	77.2 x 34.6 x 19.2 mm (3.04 x 1.36 x 0.76 inches)
Weight	93 g (3.36 ounces)

4. Setup Instructions

1. **Connect to Motor:** Connect the three output wires from the ESC to the three motor wires. Ensure correct phasing for proper motor rotation. If the motor spins in the wrong direction, swap any two of the ESC-to-motor wires.
2. **Connect to Battery:** Connect the ESC's input power wires to your LiPo battery pack. Ensure polarity is correct (red to positive, black to negative) to prevent damage.
3. **Connect to Receiver:** Plug the BEC output cable from the ESC into the throttle channel of your receiver.
4. **Programming:** The ESC can be programmed using your transmitter or an optional LED program card (sold separately). Refer to the programming section of this manual or the program card manual for detailed steps.
5. **Initial Test:** Before full operation, perform a low-power test to confirm all connections are secure and the motor responds correctly to throttle input.

5. Operating the ESC

Once the ESC is correctly installed and programmed, operating it involves controlling the throttle via your remote control transmitter. Ensure your battery is fully charged and securely connected. Power on your transmitter first, then connect the battery to the ESC. The ESC will typically emit a series of beeps indicating successful initialization and cell count detection. Gradually increase the throttle to start the motor. Always monitor the ESC and motor for unusual heat or sounds during operation.

6. Maintenance

- **Cleaning:** Keep the ESC clean and free from dust, dirt, and moisture. Use a soft brush or compressed air for cleaning. Avoid using solvents.
- **Connection Checks:** Regularly inspect all wiring and connectors for signs of wear, corrosion, or loose connections. Secure any loose connections.
- **Storage:** Store the ESC in a dry, cool environment away from direct sunlight and extreme temperatures.
- **Firmware Updates:** Check the manufacturer's website periodically for any available firmware updates for improved performance or bug fixes.

7. Troubleshooting

Common Issues and Solutions:

- **Motor Not Spinning:**
  - Check all connections (battery, motor, receiver).
  - Ensure the battery is charged.
  - Verify throttle calibration and programming settings.
  - Check for any physical obstructions to the motor.
- **ESC Overheating:**
  - Ensure adequate airflow around the ESC.
  - Verify the motor and propeller size are appropriate for the ESC's rating.
  - Check for short circuits in the motor or wiring.
  - Reduce load or consider a higher-rated ESC if overheating persists under normal conditions.
- **Intermittent Operation or Loss of Power:**
  - Inspect battery connectors and wiring for damage or loose connections.
  - Check for throttle signal loss from the receiver/transmitter.
  - Ensure the BEC voltage is stable and sufficient for connected electronics.
- **ESC Failure or Burning:** If the ESC experiences unexpected failure or burning, ensure proper wiring, correct battery voltage, and that the motor is not drawing excessive current. A defective unit or improper usage can lead to such issues. Consult a qualified technician or contact customer support if issues persist after verifying all connections and settings.

8. Warranty and Support

Hobbywing products are manufactured to high standards. For warranty information, specific terms, and conditions, please refer to the official Hobbywing website or contact your local distributor. If you encounter issues that cannot be resolved using this manual, please contact Hobbywing customer support for assistance. Keep your proof of purchase for warranty claims.