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› SUNGOOYUE 30A Brushless ESC Instruction Manual for RC Drones and Helicopters

SUNGOOYUE SUNGOOYUEkr8fcwg0gx

SUNGOOYUE 30A Brushless ESC Instruction Manual

Model: SUNGOOYUEkr8fcwg0gx

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your SUNGOOYUE 30A Brushless Electronic Speed Controller (ESC). This ESC is designed for use in various RC applications, including drones, helicopters, and FPV racing vehicles, and is compatible with 2-3S LiPo batteries. Please read this manual thoroughly before use to ensure safe and optimal performance.

2. PRODUCT FEATURES

- **Advanced Power Management:** Features an independent voltage regulator chip for stable power output during BEC load changes. Ultra-low impedance capacitors enhance anti-interference performance.
- **Enhanced Thermal Design:** Equipped with MOSFET power tubes and independent heat sinks to manage temperature during high-current operation. Supports continuous 30A current with 40A peak capacity.
- **Universal Compatibility:** Designed for 2-3S LiPo battery configurations and various RC platforms including drones, helicopters, and racing vehicles. The XT60 plug ensures secure power connections.
- **Built-In BEC Function:** Provides 1.5A/5V power output for your receiver and servos, simplifying your RC build by eliminating the need for separate battery systems.
- **Streamlined Installation:** Compact black design allows for easy mounting in tight spaces. Connects directly to your brushless motor and battery.

3. SPECIFICATIONS



Image: Close-up of the ESC label indicating key specifications.

Item Type	Brushless ESC
Material	Electronic Components
Color	Black
Continuous Current	30A
Peak Current	40A
Battery Plug	XT60
BEC	Yes
BEC Output	1.5A / 5V
Applicable Battery	2-3S LiPo (Note: Product label may indicate 2-4S, but 2-3S is recommended for optimal performance as per product description)
Application	RC remote control drone, helicopter, FPV, etc.

4. SAFETY INFORMATION

- Always disconnect the battery from the ESC when not in use to prevent accidental motor activation.
- Ensure correct polarity when connecting the battery. Incorrect connection can cause severe damage to the ESC and battery.
- Avoid short circuits. Inspect all wires and connectors for damage before each use.
- Operate in a well-ventilated area. ESCs can generate heat during operation.
- Keep away from water and moisture. This ESC is not waterproof.
- Do not exceed the specified current and voltage ratings (30A continuous, 40A peak, 2-3S LiPo). Overloading can lead to overheating and failure.
- Keep hands and loose clothing away from rotating propellers and motors when the battery is connected.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your ESC. Follow these steps carefully:

1. **Motor Connection:** Connect the three blue wires from the ESC to the three motor wires. For brushless motors, the order of these wires can affect motor rotation direction. If the motor spins in the wrong direction, swap any two of the three wires.



Image: Motor connection wires (blue).

2. **Receiver Connection:** Connect the small three-wire servo connector (usually brown, red, orange/yellow) from the ESC to the throttle channel of your RC receiver. This is typically channel 3 for airplanes and drones. Ensure the signal wire (orange/yellow) is connected to the signal pin, the positive wire (red) to the positive pin, and the negative wire (brown) to the negative pin.



Image: XT60 battery connector and receiver servo connector.

3. **Battery Connection:** Connect your 2-3S LiPo battery to the XT60 plug on the ESC. Ensure the battery is fully charged and has the correct voltage for your setup.
4. **Mounting:** Securely mount the ESC within your RC vehicle, ensuring adequate airflow for cooling. Avoid mounting it in enclosed spaces without ventilation. The independent heat sinks are designed to dissipate heat effectively.

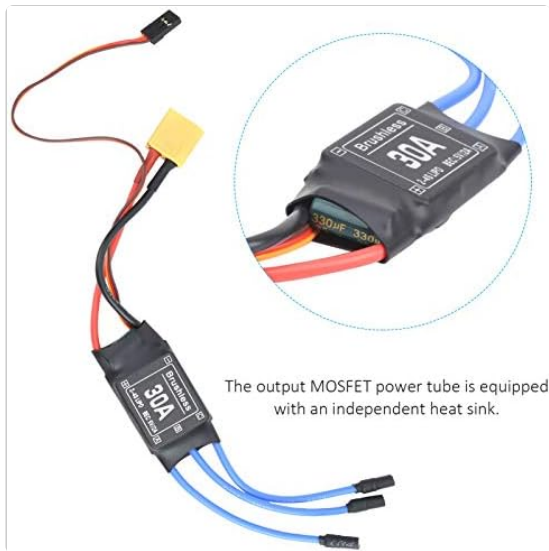


Image: Enhanced thermal design with heat sink.

6. OPERATING INSTRUCTIONS

After successful installation, follow these steps to operate your ESC:

1. **Transmitter Setup:** Ensure your RC transmitter's throttle stick is at its lowest position (zero throttle).
2. **Power On:** Connect the LiPo battery to the ESC's XT60 plug. The ESC will emit a series of beeps indicating cell count and readiness.
3. **Arming:** Once the ESC has initialized, it will typically emit a final beep to indicate it is armed and ready for operation.
4. **Throttle Control:** Slowly advance the throttle stick on your transmitter. The motor should begin to spin. Increase throttle gradually for smooth acceleration.
5. **Motor Direction:** If the motor spins in the opposite direction to what is desired, disconnect the battery, then swap any two of the three motor wires connected to the ESC. Reconnect the battery and test again.
6. **Power Off:** Always reduce the throttle to zero, then disconnect the battery from the ESC first before turning off your transmitter.

7. MAINTENANCE

Regular maintenance helps ensure the longevity and reliability of your ESC:

- **Inspection:** Periodically inspect the ESC for any signs of physical damage, frayed wires, or loose connections.
- **Cleaning:** Keep the ESC free from dust, dirt, and debris. Use a soft brush or compressed air to clean the heat sinks and components.
- **Temperature Monitoring:** During operation, monitor the ESC temperature. If it consistently runs excessively hot, consider improving ventilation or reducing load.
- **Storage:** Store the ESC in a dry, cool environment away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your ESC, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
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Motor does not spin or stutters.	Incorrect motor wiring; ESC not armed; low battery voltage; motor or ESC damage.	Check motor wire connections (swap two if needed); ensure throttle is at zero during power-up; check battery charge; inspect motor and ESC for damage.
ESC beeps continuously or irregularly.	Low battery voltage; no signal from receiver; ESC error.	Charge battery; check receiver connection and transmitter power; consult ESC beep codes if available (not provided in this manual).
ESC or motor overheats.	Overloading (too large propeller/motor for ESC); insufficient cooling; short circuit.	Reduce load; improve ventilation; check for short circuits; ensure continuous current is within 30A.
No power to receiver/servos.	BEC failure; incorrect receiver connection.	Check receiver wiring; test with another BEC or receiver if possible.

9. WARRANTY AND SUPPORT

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty terms, technical support, or service inquiries, please contact SUNGOOYUE customer service through your purchase platform or the official brand website. Please have your product model number (SUNGOOYUEkr8fcwg0gx) and proof of purchase ready.