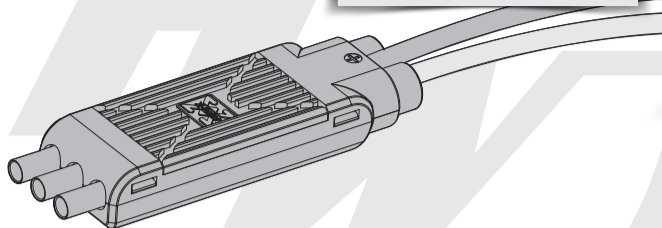


X-Rotor
USER MANUAL
Multi-Rotor
 Brushless Electronic Speed Controller
 XRotor Pro 3D



20161227



Thank you for purchasing this HOBBYWING product! Brushless power systems can be very dangerous. Any improper use may cause personal injury and damage to the product and related devices. We strongly recommend reading through this user manual before use. Because we have no control over the use, installation, or maintenance of this product, no liability may be assumed for any damages or losses resulting from the use of the product. We do not assume responsibility for any losses caused by unauthorized modifications to our product.

We, HOBBYWING, are only responsible for our product cost and nothing else as result of using our product.

01 Features

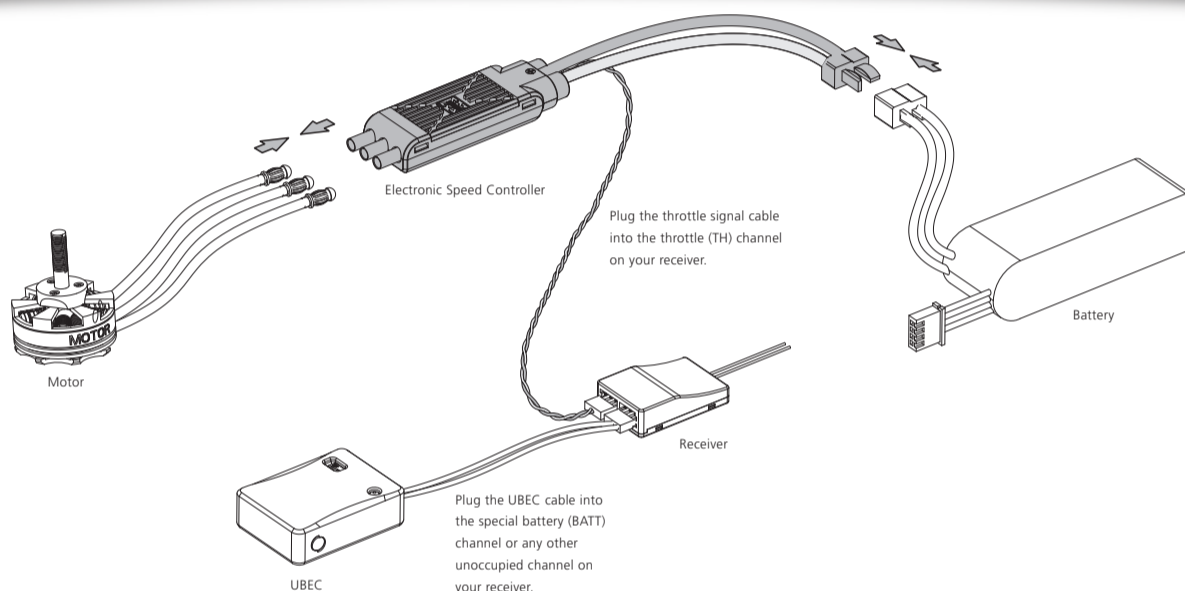
- Special core program for multi-rotor controllers greatly improves throttle response.
- Forward & Reverse 3D flight can be realized by swiftly switch the motor rotation.
- DEO (Driving Efficiency Optimization) technology significantly improves throttle linearity and driving efficiency.
- High intelligent and adaptive default settings like auto-adjusting timing meet almost all applications.
- The twisted-pair design of the throttle signal cable effectively reduces the crosstalk produced in signal transmission and makes flight more stable.

02 Specifications

| Model | Con. Current | Peak Current (10s) | BEC | LiPo | Weight | Size |
|-------------------|--------------|--------------------|-----|------|------------------------------------|--|
| XRotor Pro 40A 3D | 40A | 60A | NO | 3-6S | 50g (Version A) 45g (Version B) | 66x21.8x11mm (Version A) 73.5x21.8x11mm (Version B) |
| XRotor Pro 25A 3D | 25A | 40A | NO | 3-4S | 25g (Version A) | 46.6x22.2x10.5mm (Version A) |

Note: Version A (Wire leaded) connects brushless motor via output wires, while Version B (COB--3.5mm Connector On Board) with gold-plated connectors already directly soldered onto the printed circuit board of the ESC, so version B hasn't output wires.

03 Motor Wiring



04 3D Flight

(Attention! XRotor-Pro-3D doesn't support throttle range calibration, because its throttle range is fixed at 1100~1940 μ s.)

1. Forward & Reverse 3D Flight

The throttle ranges from 1100 μ s to 1940 μ s (the neutral position is at 1520 μ s, \pm 20 μ s is the dead band.), 1540 μ s-1940 μ s (that is from the neutral throttle position to the maximum throttle position) correspond to the forward 0%~100% throttle. 1100 μ s-1500 μ s (that is from the neutral throttle position to the minimum throttle position) correspond to the reverse 0%~100% throttles.

2. Start-up

First time you start up the ESC, it starts up softly. 3 seconds later the ESC will enter the Forward/Reverse 3D-flight operation. The ESC will re-enter the soft start-up process after the throttle stick is moved to the neutral dead band for over 3 seconds.

05 Normal Start-up Process

Turn on the transmitter and move the throttle stick to the neutral position.



Connect the ESC to a battery; 1 second later, the motor will emit "123" indicating the power system is ready.



Push the throttle stick to slightly over the 50% throttle position, the ESC will start up slowly. 3 seconds later, it'll enter the 3D-flight operation.

Note 1: Do not push the throttle stick too much when you're trying to start up the ESC, because the motor will immediately accelerate to the RPM correspond to the throttle amount right after the soft start-up process ends.

Note 2: You need the corresponding 3D flight controller to match our XRotor-Pro-3D ESC when you fly 3D flight.

06 Multiple Protections

- **Start-up Protection:** The ESC will shut down the motor if it fails to start the motor normally within 2 seconds by increasing the throttle value. In this case, you need to move the transmitter throttle stick back to the neutral position and restart the motor. (Possible causes of this problem: poor connection/ disconnection between the ESC and motor wires, propellers are blocked, etc.)
- **Over-load Protection:** The ESC will cut off the power/output when the load suddenly increases to a very high value. Normal operation will not resume until the throttle stick is moved back to the neutral position. The ESC will automatically attempt to restart when the motor and the ESC are out of sync.
- **Throttle Signal Loss Protection:** When the ESC detects loss of signal for over 0.25 second, it will cut off the output immediately to avoid an even greater loss which may be caused by the continuous high-speed rotation of propellers or rotor blades. The ESC will resume the corresponding output after normal signals are received.

07 Troubleshooting

| Trouble | Warning Tone | Possible Cause | Solution |
|--|--|---|--|
| The ESC was unable to start the motor. | "Beep beep..." (The motor beeps rapidly) | The throttle stick is not moved to the neutral position. | Move the throttle stick to the neutral position or check if the signal output from the flight controller is correct or not. |
| The ESC was unable to start the motor. | "Beep-, beep-..." (Time interval is 1 second) | No output signal from the throttle channel on the receiver or the corresponding channel on the flight controller. | Check if the transmitted and receiver are well bound, and if the throttle control wire has been correctly plugged into the TH channel on the receiver or corresponding channel on the flight controller. |