Manuals+ — User Manuals Simplified.

XRotor 60A Pro Multi Rotor Electronic Speed Controller Instructions

Contents

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- Thank you for purchasing this 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.

Features

1. A special core program for multi-rotor controllers greatly improves throttle response.
2. DEO (Driving Efficiencies Optimization) technology significantly improves throttle linearity and driving efficiency.
3. High intelligent and adaptive default settings like auto-adjusting timing meet almost all applications.
4. The twisted-pair design of the throttle signal cable effectively reduces the crosstalk produced in signal transmission and makes flight more stable.
5. Compatible with various flight-control systems and supports a signal frequency of up to 621Hz. (Note: all throttle signals over 500Hz are non-standard signals.)
6. The high-light LED position on the XRotor Pro SOA ESC saves the trouble of mounting any extra color light on multi-rotors.
7. The 4-in-l DIP switches at the bottom of the Rotor Pro 50A ESC control the ESC ON/OFF status, the color of the LED light, the ON/OFF of the DEO function, and the motor rotation.

Specifications

| Model	Con. C	Peak C (10s)	BEC	LiPo	Programmable item	Weight	Size (L*W*H)
XRotor Pro 40A	40A	60A	No	3-6S	DEO (ON/OFF)	50g (Version A) 45g (Version B)	66*21.8*11mm (Version A) 73.5*21.8*11mm (Version B)
XRotor Pro 50A	50A	70A	No	4-6S	DEO(ON/OFF) And etc.(See instructions below)	56g	48 x 30 x 15.5mm
XRotor Pro 60A	60A	80A	No	4-6S	DEO(ON/OFF) And etc.(See instructions below)	56g	48 x 30 x 15.5mm

Note: Version A (Wire Leaded) connects the brushless motor via output wires, while version B (COB-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.

User Guide
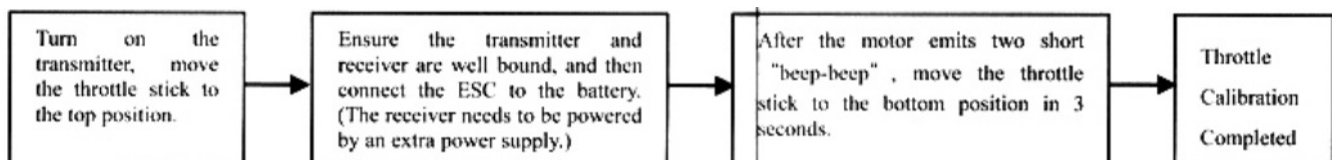
Throttle Calibration & ESC Programming

Users need to calibrate the throttle range when they start to use a new XRotor brushless ESC or another transmitter.
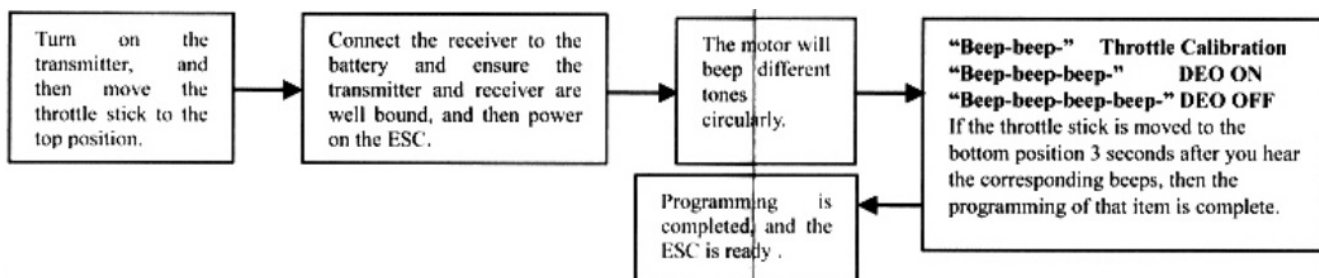
1. **Step 1: Motor Wiring**
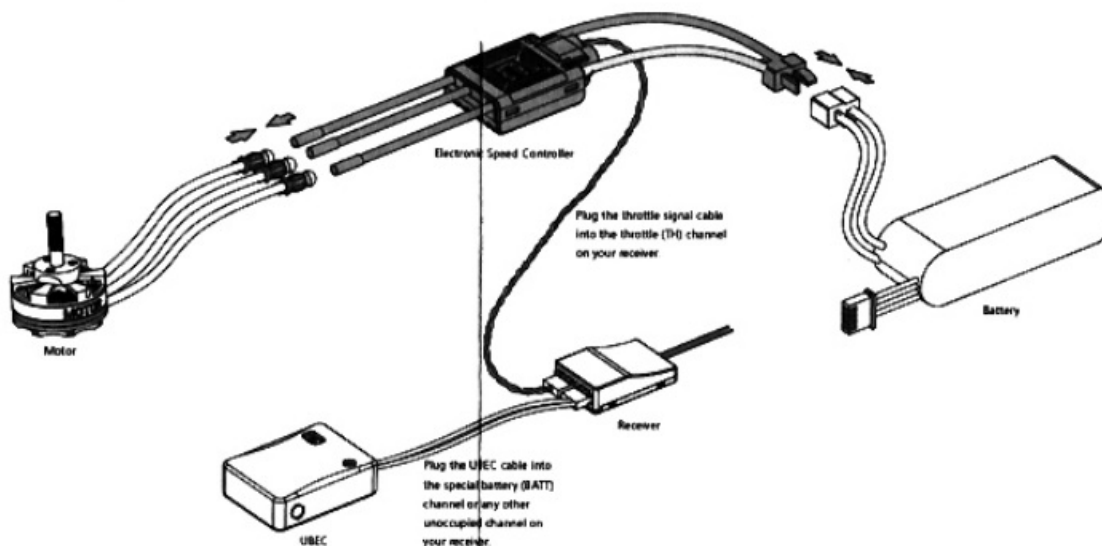
   1. **Warning!** We strongly recommend removing the propellers for your own safety and the safety of those around you before performing calibration and programming functions with this system.

2. **Step 2: Throttle Range Calibration**
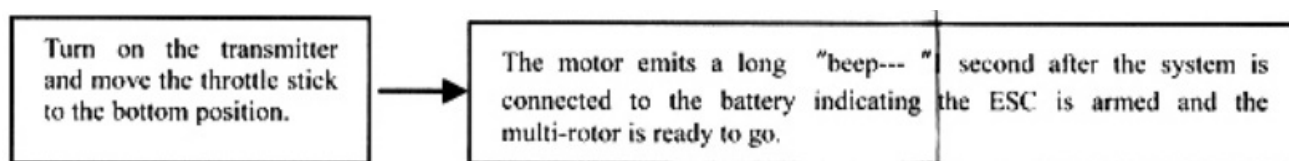

3. **Step 3: ESC Programming A. XRotor Pro 40A**

| | Turn on the transmitter, and then move the throttle stick to the top position. | → | Connect the receiver to the battery and ensure the transmitter and receiver are well bound, and then power on the ESC. | → | The motor will beep different tones circularly. | → | "Beep-beep-" Throttle Calibration
"Beep-beep-beep-" DEO ON
"Beep-beep-beep-beep-" DEO OFF
If the throttle stick is moved to the bottom position 3 seconds after you hear the corresponding beeps, then the programming of that item is complete. |

| | Programming is completed, and the ESC is ready. | ← | |

- **B. XRotor Pro 50A**

Dip Switch	Switch 1 (LED Status)	Switch 2 (LED Color)	Switch 3 (DEO Status)		Switch 4 (Motor Rotation)
Option	On	Red	ON		CW
	Off	Green	OFF		CCW

- **Note:** With the DEO ON, for better throttle linearity, the ESC will automatically brake and quickly reduce the motor speed when decreasing the throttle amount.
- This can remarkably improve the movement of the multi-rotors and the stability of its flight direction. Moreover, this also improves the driving efficiency of the ESC and reduces its operating temperature.

Normal Start-up Process

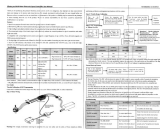| Turn on the transmitter and move the throttle stick to the bottom position. | → | The motor emits a long "beep--- " second after the system is connected to the battery indicating the ESC is armed and the multi-rotor is ready to go. |

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 bottom 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 a loss of signal for over 0.25 seconds, 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.

Troubleshooting

Trouble	Warning Tone	Possible Cause	Solution
The ESC was unable to start the motor.	"Beep beep beep..." (The motor beeps rapidly)	The throttle stick is not at the bottom position.	Move the throttle stick to the bottom position or recalibrate the throttle range.
The ESC was unable to start the motor.	"Beep, beep, beep..." (Time interval is 1 second)	No output signal from the throttle channel on the receiver.	Check if the transmitter and receiver are well bound. Check if the throttle wire has been properly plugged into the throttle channel.
The ESC was unable to start the motor.	"BB, BBB, BBBB" (These tones are played circularly)	The "Normal/Reverse" direction of the throttle channel on the transmitter is incorrect.	Refer to the transmitter instructions and correctly set the "Normal/Reverse" direction of the throttle channel.

Documents / Resources

XRotor 60A Pro Multi Rotor Electronic Speed Controller [pdf] Instructions
60A Pro Multi Rotor Electronic Speed Controller, 60A, Pro Multi Rotor Electronic Speed Controller, Rotor Electronic Speed Controller, Electronic Speed Controller, Speed Controller, Controller

References

- **User Manual**