VERTEX

Thank you for choosing the Vertex Series Brushless Electronic Speed Controller (ESC). Our ESCs are designed for easy use and setup, requiring only “Throttle Calibration” via the transmitter throttle stick. Please note that any throttle cut used in your radio may prevent the ESC's throttle from functioning properly.

Before operating or powering any electronics, including your ESC, please read and follow the information provided in this manual. We cannot control the use, installation, application, or maintenance of our products; therefore, we assume no liability for any damages, losses, or costs resulting from their use.

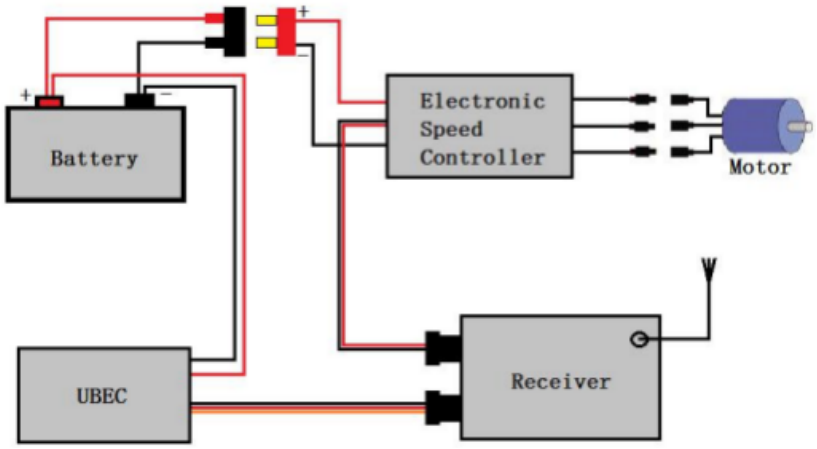
The Vertex 3D/4D ESC is ideal for indoor as well as backyard airplanes, especially for 4D acrobatic enthusiasts. A simple switch has been created to quickly change between 3D and 4D modes, (must resent esc to change modes). BlHeli_S firmware ensures fast, reliable motor control, proven in demanding FPV racing conditions. Custom editing can be done by user though we do not support those features, ESC is currently programmed to work with Vertex motor(s), Other motors may be used once editing software that may be required for 4D programming. Higher KV motors perform better 4d reversing speeds with pre-programmed settings.

Warning!

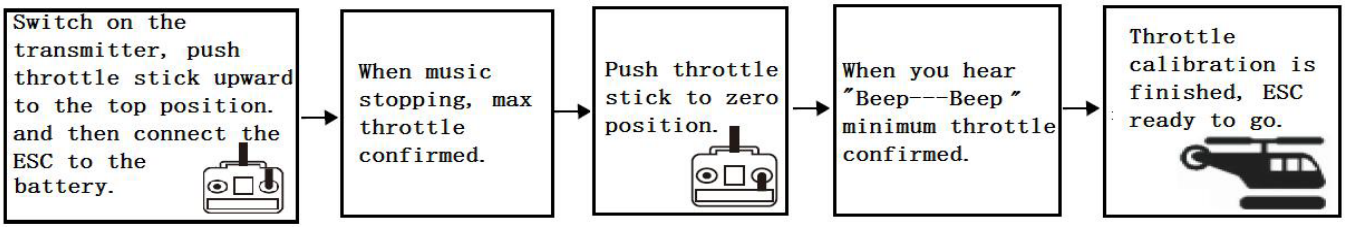
- Do not use more battery packs than rated ones.
- Do Not use bad, damaged, cracked or bulged battery.
- Over-heat protection function built-in the ESC. When the temperature reaches 100°C during the operation of ESC, the rotate speed of the motor will immediately reduce; It will automatic recover when the temperature below 100°C.
- Please do not turn off the receiver when the ESC power on.
- Please disconnect the battery pack immediately when the model landing.
- Handle the model with extremely care and stay clear of the propeller.
- Do Not connect the ESC to just ‘any’ kind of power sources. Take care to ensure that the right polarity of NiCd, NiMH or Li-Poly power packs.
- When running 4D programming, throttle stick is in neutral position. This can be very dangerous and caution must be used!
- Do Not connect the motor battery to the wrong polarity, or the ESC will be seriously damaged.
- Once the motor battery pack is connected, handle the model with extreme care!!!!

TWISTED HOBBYS

Wires Connection



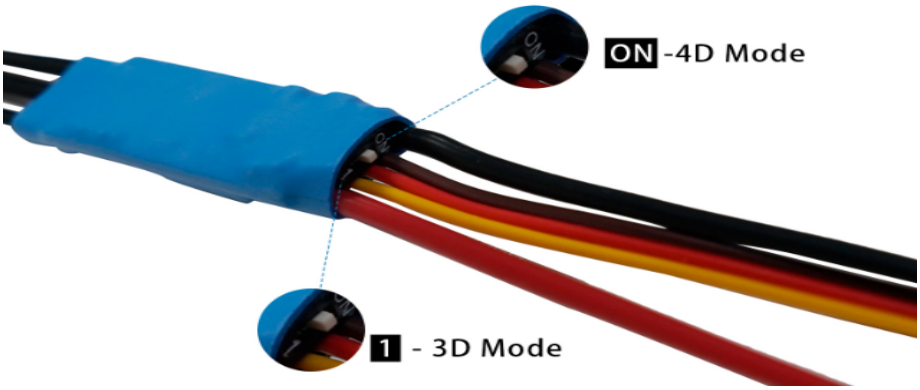
Throttle Range Calibration



⚠ This is an extremely powerful brushless motor system. We strongly recommend you remove propellers for your own safety and the safety of those around you before performing calibration and programming functions with this system!

⚠ **Attention**

1. The 3D 4D mode switching method uses a toggle switch. Turn the switch to the 1 position for 3D mode, and turn the switch to the ON position for 4D mode, as shown in the figure:



2. The throttle calibration function is only effective in 3D mode, and there is no calibration function in 4D mode.
3. In both 3D and 4D modes, the throttle stroke and related parameter can be set through the PC software.

Caution! Rc Model Aircraft equipped with high power setups/motors can hurt or even createdpermanent damage to yourself, models, electronics or other valuables. Always make sure nothing is near the prop when battery is connected for any reason. High currents can heat wires and batteries, causingfires or burning to skin etc … Follow the wiring connection carefully! Always fly at the approved field. Never fly over or near spectators. Even though this controller is equipped with a safety arming program, youshould still be cautious when connecting the main battery.

You must set your Throttle Calibration!!!!

Throttle Calibration must be completed for use in either 3d or 4d programmed setting or your throttle will not work correctly. Any throttle cut used in your transmitter may effect esc's from functioning correctly.

To program the throttle in 3D normal airplane mode:

1. Turn on the transmitter and wait for it to fully power up. Move the throttle stick to the highest position (100%).
2. Connect the battery to the ESC.
3. You'll hear a confirmation beep.
4. Move the throttle stick all the way down to the 0 position.
5. Once you hear the final confirmation sound, the throttle is successfully programmed.

4D (Forward/Reverse) Reversible Throttle Programming Instructions (0-50/50-100)

1. Ensure the ESC switch is in the correct position (refer to the diagram for reference).
2. With the radio powered on, move the throttle stick to the exact middle position (as close to 50% throttle as possible).
3. Connect the battery to the ESC.
4. If you don't hear a confirmation beep, slowly adjust the throttle slightly up or down to find the neutral (50%) position.
5. Once you hear the confirmation tone, the 4D throttle control is successfully programmed.

Warning: This setup is highly dangerous, as it lacks the safety stop found in 3D programming. Exercise extreme caution when using 4D programming, as there is no throttle safety cut-off.

Custom programming : Vertex ESCs are pre-programmed to optimize performance with Vertex Outrunner motors. By default, higher KV motors will reverse faster than lower KV motors.If you're using different motors, we recommend adjusting the settings in the software accordingly. Please note that we do not provide data or support for custom edits made through Blhelisuite software.