**INSTALLING YOUR EDGE ESC**

1. **Add your battery connector**
   You must attach a quality battery connector of your choice to the red (+) and black (-) power wires. Solder the battery connector to the wires. ENSURE THAT THE POLARITY IS CORRECT (red wire to battery red wire, black wire to battery black wire). Follow the instructions provided with the battery connector.

2. **Connect the motor to your ESC**
   Solder the corresponding connectors for your motor to the wires coming from the ESC, or solder the motor wires directly to the motor leads on the ESC. Always use electronics grade solder and make sure your solder joint is solid. Never fly with an ESC that is not properly connected or soldered. Always treat a powered system with respect. A controller can start unexpectedly and could cause serious injuries.

3. **Connect the ESC to your receiver**
   Connect the receiver lead (the brown/red/orange wires with a black plastic connector on the end) to the throttle channel on your receiver. If you choose to use the white AUX Line, discussed later, please connect it as instructed for your Futaba instructions.

**NOTE TO USERS WITH A FUTABA TRANSMITTER:** You must reverse the throttle channel signal on your transmitter. Please refer to your Futaba instructions.

4. **BEC operation.**
   The Edge and EDGE Lite controllers have an onboard BEC circuit that provides power for the RX and servos. This BEC is capable of supplying up to 5 amps of power. If the servos in the system draw more current, or if you are using an outboard power source, Castle’s CC BEC PRO is highly recommended.

   If an external power source is used, the red wire on the Edge throttle cable must be disconnected from the wiring harness. We recommend lifting the plastic retaining tab and sliding the small connector out of the housing. Cover this connector with tape or shrink wrap.

5. **Reversing rotation (if necessary)**
   You may wish to change the motor's rotation direction. To change the rotation of the motor, swap ANY two motor wires. Follow the instructions provided with the motor.

6. **Mounting the ESC**
   Edge ESCs have mounting tabs for your convenience. We recommend using Velcro or double sided tape to attach the Edge Lite ESCs to the airframe. Never place undue strain on the ESC by using zip ties on the wires within 1 inch of the controller.

**NEVER USE TIPS ON THE BODY OF AN EDGE LTE CONTROLLER**

7. **Initialization sequence**
   1. Ensure that the Edge is connected to the throttle channel on your receiver.
   2. Turn your transmitter ON and set the throttle stick to mid-throttle.
   3. Connect the motor battery to the speed controller. The speed controller will remain dranmed and will not operate the motor until it receives the 9% throttle signal.

   When you are ready to fly, move the throttle stick to the lowest position on your transmitter.

   The Edge will keep the motor connected until it is indicated that it is armed.

   **Always use radio transmitter before powering up the receiver and/ or the ESC. Some receivers fail safe features, those that are not to transmitter on receiver power up, or those that have a “power-up” output signal that is different from full throttle or the stick positions on the TX may cause the arming sequence to occur and command the ESC to drive the motor. Using channels other than the radio TX manufacturer’s recommended throttle channel may lead to unwanted or dangerous results. Use the throttle channel to control the ESC on your own risk.**

   **Always perform a range check at full, half, and zero throttle before flying any new speed controller. For helicopters, range check with the blades off the helicopter at full, half, and zero throttle.**

**EDGE BEEP CODES/ LED PATTERNS**

Edge ESCs are programmed to sound a number of tones and codes using the LED. Edge is using LED patterns to provide feedback to the user regarding the power system. The following chart describes these codes, “•” represents a short beep and “-” represents a long beep.

**NOTE TO USERS WITH A FUTABA TRANSMITTER:** You must reverse the throttle channel signal on your transmitter. Please refer to your Futaba instructions.

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Phoenix Edge controllers support Castle Link for real telemetry feedback. Visit www.castlecreations.com/ CastleLinkLive for more information.

PROGRAMMABLE SETTINGS WITHOUT A COMPUTER – STICK PROGRAMMING

The Edge firmware is designed to make it difficult to accidentally enter programming mode. Stick programming can only offer access to a small subset of the settings available on the controller. Castle highly recommends using the Castle Link USB device and on-screen application to make settings changes on your ESC as it is all possible.

Overview

Once in programming mode, the Edge ESC “asks” questions by beeping and flashing the setting number, followed by the number for each of the setting values. You must answer “yes” or “no” by moving the throttle stick on your transmitter as the Edge ESC presents them. The values are always presented in sequence, and do not “tell you” what any of the settings are currently programmed for.

The current setting and setting value are “flashed” out by the LED. (For example if you are on setting #3 and value #2, there will be 3 beeps, then 2 flashes repeating until you answer). Answering “no” to a setting value will cause the Edge ESC to ask for the next value in sequence. Answering “yes” to a setting value will store that setting in the permanent memory, and skip to the next setting.

NOTE: If you answer “no” to all values for a particular setting, the ESC will keep whatever value had been previously programmed. Only by answering “yes” to a value will the ESC store that value in memory. If you move the throttle stick before you answer the question, the ESC will keep the last value that was programmed for.

You will need to move the transmitter stick to the “yes” (full throttle position) or the “no” (zero throttle position) position depending on what you want to change. When the Edge ESC has accepted your answer, it will light the LED rapidly, and emit a constant tone beeping. Move the throttle stick back to the middle position for the next question. If you wish to re-program only some of the features you do not need to continue through the programming steps for the remaining settings. Once you have programmed each of the features you wish to change and the Edge ESC has confirmed the selection, instead of returning to mid-throttle for the next question, disconnect battery power, re-connect power, and arm the speed control as normal.

Before manual programming, remove the prop or pinion to ensure safety.

Enter Programming Mode

1. The Edge controller must be connected to a motor to sound beeps. Turn your transmitter on, and leave the Edge ESC unpowered. Move the transmitter stick to the top position (full throttle).

2. Connect battery power to the Edge ESC. The Edge ESC will beep its initialization tones when first powered-up. In about a short period of time the Edge ESC should emit another short tone and the LED on the Edge ESC should flash a short, single flash that repeats. If the ESC flashes continuously it is not seeing a full throttle position. Move your transmitter to the top position or increase your full throttle endpoint or RTV on your transmitter.

3. Move your transmitter stick to the middle position. The Edge ESC will emit another short tone, and the LED on the Edge ESC should flash a short, double flash that repeats.

4. Move your transmitter stick back to the top position again. After a short time, the Edge ESC will emit a short tone, and the LED on the Edge ESC should flash a short, double flash that repeats.

5. Move your transmitter stick back to the middle position again. The Edge ESC will emit four short tones in a row, and the LED on the Edge ESC should emit a flashing Red LED, a single flash that repeats. The Edge ESC is now in programming mode and asking you the first question.

Stick programming offers quick access to basic settings only. Many more may be accessed using Castle Link and a Windows PC.