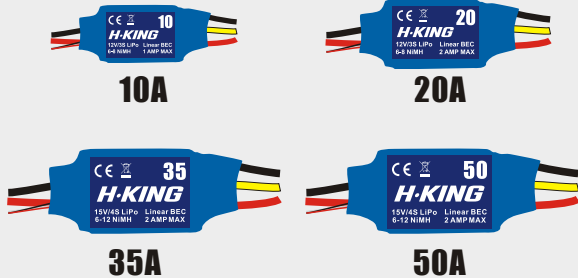


BRUSHLESS CONTROLLERS FOR AIRCRAFT

H·KING



INSTRUCTION MANUAL

Thanks for purchasing our H.King series Electronic Speed Controller (ESC) for aircraft. This product incorporates the latest technological developments. You have got a very efficient controller for brushless motors use. Our priority was reliability and simple to use. All H.King controllers are ready to fly straight from the package, no programming necessary. They are defaulted to AUTO LIPO detect and no brake. Should users wish to modify these settings, they may do so using their transmitter.

Even if programming sequences of H.King speed Controllers are particularly logical and therefore very easy, using and operating requires some knowledge and a few basic skills. Please read through instructions entirely before attempting to operate with these electronic devices.

WE STRONGLY RECOMMEND GETTING PARTICULARLY CLOSE ATTENTION TO OUR SAFETY NOTES.

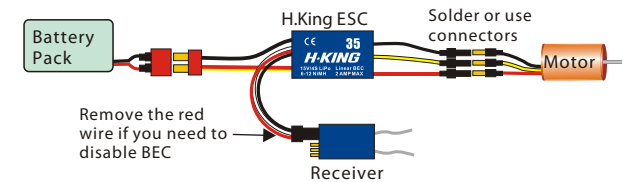
SAFETY NOTES:

- ⚠ Understand that an electric motor that is connected to a battery and speed control may start unexpectedly and cause serious injuries.
- ⚠ Always treat them with necessary respect. Keep the propeller away from your body and others at all times.
- ⚠ We suggest that you remove the propeller when you are working on the plane with the battery connected.
- ⚠ Please observe all local laws regarding the flying of remote control aircraft.
- ⚠ Never fly over others or near crowds.

High power system for RC model can be very dangerous, so we strongly suggest you read this manual carefully. In that we have no control over the correct use, installation, application, or maintenance of our products, no liability shall be assumed nor accepted for any damages, losses or costs resulting from the use of the product. Any claims arising from the operating, failure or malfunctioning etc. will be denied. We assume no liability for personal injury, property damage or consequential damages resulting from our product or our workmanship. As far as is legally permitted, the obligation to compensation is limited to the invoice amount of the affected product.

Connect your H.King ESC

You will need to solder connectors on your H.King controller.



Please refer to the diagram above. Double-check your battery polarity and connections before plugging a battery into your controller. There is no polarity for the three motor wires. If the motor spins the wrong way when power is applied, swap any two of the motor side connections and it will then spin properly. You may also use programming function, described below, to reverse the rotation via the controller's software. **NOTE TO FUTABA TRANSMITTER USERS** You may have to reverse the throttle direction of your radio. Please see your radio's instructions on how to make this change.

Fly your H.King ESC

Your H.King ESC comes ready to fly with Lithium Polymer type batteries. No settings changes are needed. To fly, turn your transmitter on before connecting your H.King ESC to the motor battery. When you connect the motor battery to the H.King ESC, you will hear an initialization tone from the motor and a series of beeps telling you how many Lithium Polymer cells in series are in your battery pack, and the servos will be active. Make sure that the number of beeps matches the number of cells in your pack. If it doesn't, make sure your pack is fully charged. The H.King ESC will not arm unless you move your throttle stick to the lowest position. When the H.King ESC receives the low throttle command, it will arm and play a double tone through the motor, indicating it is armed and now ready to run. If this is the first time you are running the controller, advance the throttle slowly to ensure that the propeller rotation is correct. If it isn't, correct as described above.

ATTENTION LIPO FLIERS - Always follow your battery brand's safety recommendations. Your H.King ESC is set at the factory to use a 3.0 volt per cell cutoff voltage.

Changing Optional Settings on your H.King ESC

You may change the H.King's settings for BATTERY TYPE, BRAKE BEHAVIOR, and MOTOR DIRECTION. You may change these settings using your radio and receiver. To change settings with your receiver, start with the motor battery unplugged and the transmitter ON.

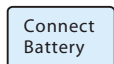
- Move throttle stick on full throttle (up) position first.



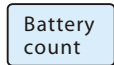
- Turn on transmitter.



- Connect the H.King ESC to a battery pack.



- You should hear the first multi-tone ring upon plug in, and the battery count in beeps if set for Auto-Lipo.



- After 2 seconds, you should hear a second multi-tone ring, indicating the ESC sees full throttle.



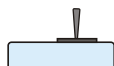
- Move throttle stick down to the middle position, and you will hear another ring.



- Move throttle stick back to the top position, and you will hear another ring.



- Move throttle stick to the middle position again.



- And you will hear 4 rings all in a row.



Then the H.King ESC will make a single beep that repeats. This is setting question #1.



What battery type?

- For Lithium Polymer type batteries (default setting), move the stick up to full throttle and wait for the rapid beeps



- For NiCad and NiMH type batteries, move the stick to low/off throttle and wait for the rapid beeps. The rapid beeps tell you that the controller has now stored that answer in its memory.



- You can now move the stick back to the middle position for question #2 Brake ON or OFF.



The H.King ESC should start beeping two repeating beeps. This is setting question #2.



Brake ON or OFF?

- For Brake ON move the stick to full throttle, and wait for the rapid beeps



- For Brake OFF (default setting), move the stick to low/off throttle, and wait for the rapid beeps. The rapid beeps tell you that the controller has now stored that answer in its memory.



- You can now move the stick back to the middle position for question #3 Rotation direction.



The H.King ESC will start beeping three repeating beeps. This is setting question #3.



Rotation Direction?

For rotation forward (default setting), move the stick to full throttle, and wait for the rapid beeps.



- For rotation reversed, move the stick to low/off throttle, and wait for the rapid beeps. The rapid beeps tell you that the controller has now stored that answer in its memory.



After the last setting is made, the controller will exit programming mode, and will arm when the throttle is in the low position.

ATTENTION: From now on speed controller is armed and any throttle stick moving will make motor starting!

H.King Series controllers provide a Linear Battery Eliminator Circuit (BEC) that will convert the voltage in your battery pack to the proper voltage for the operation of your receiver and servos. Please note that the current supplied by the Linear BEC is affected by the number of cells in your system. Higher numbers of cells reduce the amount of current your Linear BEC can deliver. If you are using more than ten NiMH/NiCad cells, more than 3 LiPo Cells, or your power consumption is excessive, you must disable the BEC and use a separate power source for the receiver. Disable the BEC by cutting or removing the red wire from the servo connector on the controller.

SPECIFICATION

Model No.	Max Amps	Max Volts	BEC Output	Size	Net Weight
H.King 10	10	3S LiPo	5V/1A	23 x 18 x 8 mm	8g
H.King 20	20	3S LiPo	5V/2A	34 x 23 x 12mm	19g
H.King 35	35	4S LiPo	5V/2A	38 x 28 x 16mm	32g
H.King 50	50	4S LiPo	5V/2A	38 x 28 x 16mm	38g

