Typhoon-25 25amp Brushless Sensorless Speed Controller

Features

- Extremely Low Resistance (.013 ohms)
- High rate (7 KHz) switching (PWM)
- Up to 25 Amps continuous current with proper air flow, 35 amps surge
- Five to eight cells with four micro servos
- Up to ten cells with three micro servos
- Sixteen cells MAX (with BEC disabled)
- Dynamic braking ensures folding props fold promptly
- BEC (1.5A) provides power to receiver and servos - eliminates separate receiver battery
- User Programmable Features:
  - Brake Type – on/off, hard/soft
- Runs motor in forward OR reverse
- Auto Motor Cutoff with Reset
- Safe "power on" arming program ensures motor will not accidentally turn on
- Low torque "soft start" prevents damage to fragile gearboxes
- Auto shut down when signal is lost or radio interference becomes severe
- Microprocessor controlled
- Rugged surface mount construction

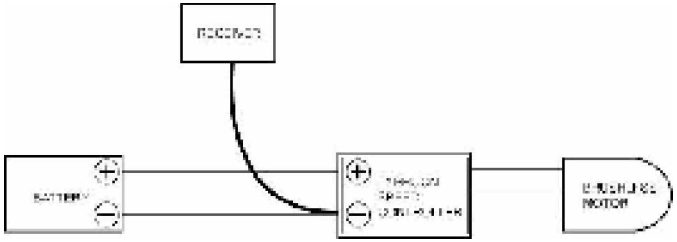
Important Note before you use this Speed Controller

A hi-power motor system may be very dangerous! The propeller or other moving mechanism may harm your body or finger if you do not put enough attention on handling these device. If the power system is not properly configured, it may cause hi-current or over heating situations. These situations may cause damage to the controller and the motor. Be sure to measure the current and watt input before you really put it into function.

BEC Current limitation

Servo Type	5-6 cells	7-8 cells	9-10 cells
Micro	4	4	3
Hi-Torque	4	3	2

Connecting the Speed Controller



Arming your controller

Once you connect to the battery, the controller will give you a beep tone to tell you the controller is connected to the battery. If the cortroller is connected to the receiver, it will give you another double beep tone it means the controller is armed and ready to drive the motor. From this point you should be careful on handling the power system.

After you disconnect the power source from the battery,prwer in the controller capacitor will last for about 5-10 seconds.

If you reconnect the battery without waiting for another 10 seconds, the controller will directly get into arming mode without the beeping tone.

Features of Your *Typhoon-controller*

BEC - The BEC power is supplied to the receiver and servos through the receiver connector wires. If you wish to disable the BEC and use a separate receiver battery (required for the use of more than ten cells),you must first cut the red wire in the trio of receiver wires. Simply use a

a pair of wire cutters to remove a short section of the red wire near the receiver connector, and be sure to insulate the cut wire with a bit of electrical tape. Then you may safely use a battery with your receiver.

Brake - moving the transmitter throttle stick to the bottom position enables the prop brake.

Cutoff - The motor cutoff will occur when the input battery voltage drops below the cutoff voltage (factory preset at 5.0V) for more than one half second. Once motor cutoff has occurred, moving the throttle to the braking position (full off) can re-arm the controller. This will allow restart of the motor at low throttle after cutoff has occurred.

WARNING: Repeated restarting of the motor may drain the battery to a point where the radio receiver will stop operating,resulting in a loss of control of the model.

Loss of Transmitter Signal, or excessive radio noise cutoff - Motor cutoff will also occur if the signal from the transmitter is lost, or if the radio noise becomes excessive. After radio connection has been reestablished, moving the throttle to the braking position (full off) for four seconds can restart the motor.

Safe Power Up - The Safe Power up feature is a "finger saver", designed to prevent the motor from starting accidentally on power up. To arm the controller, the transmitter stick must be held in the "Brake" position (all the way down) for at least four seconds. ***Until the controller is armed, it will not provide any power to the motor, regardless of where the throttle stick on your transmitter is positioned.*** Before flying your model, be sure to "blip" the throttle to ensure that the controller is armed.

LED – The LED is used for programming the features on the Typhoon-15™. Once armed, the LED also provides an indication that the controller has reached full throttle by lighting solid when full throttle is reached. If the unit is in Auto-Calibrating Throttle mode (program setting 4-1) then you may see full throttle LED indication before the stick is in the full up position. Simply continue moving the stick to full up. The controller will detect the high stick travel and adjust full throttle accordingly.

Troubleshooting

Everything is hooked up correctly, the BEC (receiver and servos) works, but the throttle does not work.

The controller is not seeing the four seconds of "dead spac e" (low throttle) and is not arming. Try moving your throttle stick all the way down, and moving the trim all the way down. Wait for four seconds and try the throttle again. If it still does not arm, you may need to reverse the throttle control on your transmitter (see your radio documentation). You may also check to make sure that your endpoint adjustments on your radio (if it has them) are set all the way open.

Every time I throttle all the way up, the controller "cuts off" after a few seconds, even with fresh charged batteries.

The controller will automatically shut down the motor if the battery voltage falls below the voltage cutoff (factory preset at 5.0V) for more than half a second. This is to protect your airplane from a loss of control caused by too low a voltage at the receiver. If the cutoff is kicking in with fresh charged batteries, it means that the voltage is dropping very quickly. This is usually an indication of a motor that is drawing too much current for the batteries to handle. Try using a smaller prop on the motor, or using batteries with a higher rating (for example, if you are using 800AR cells, you might try going to 1000SCR cells.)

The LED comes on when I throttle up.

This is normal. The LED comes on when full throttle has been reached.

If the unit is in Auto-Calibrating Throttle mode (program setting 4-1) then you may see full throttle LED indication before the stick is in the full up position. Simply continue moving the stick to full up. The controller will detect the high stick travel and adjust full throttle accordingly.

You can only set the Break to OFF/HARD/SOFT 3 modes.

Nothing seems to work, receiver and servos are dead, and the throttle is dead.

Check all connections to ensure that they are correct, and that the polarity (+/-) connections are correct. If everything is correctly connected, and the receiver and servos still do not work, contact the dealer where you purchased your Typhoon-controller or contact the distributors in your country or contact Ultrafly Model Corp. directly. (email to service@ultraflymodel.com or check our website www.ultraflymodel.com).

Programming the Controller

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Option 1. Soft brak (Default setting)

Option 2. Hard brake

Option 3. Brake disable

Please follow the below procedure to enter the programming mode.

Step	Your action	Throttle position	LED	Controller Response
1	turn on radio	Top		
2	turn off radio	Top	one flash	short tone
3	move throttle	Middle	two flash	short tone
move	throttle Top		triple flash	short tone
5	move throttle	Middle	2 flash & long pause	short tone

Now you are in programming mode and continue the procedure to set the brak!

Procedure to Set the Brake

The controller will ask you by flashing the LED and beeping tone. You should use the throttle stick to answer the questioning by “YES” with full throttle at top position and “NO” with no throttle at lower down position. Once you answer “YES” then the programming is complete. You can use this setting to fly your model.

When you answer “NO” to that question/option the controller will give you a flash to confirm your answer.

At this moment you should switch the throttle to middle position then the controller will ask you the next question.

Controller Display	Question	Your Action	Controller Response
1 flash - pause - 1 flash - long pause	Option 1 soft brake	Yes/No	Flashes rapidly to confirm your action
1 flash - pause - 2 flash - long pause	Option 2 Hard Brake	Yes/No	Flashes rapidly to confirm your action
1 flash - pause - 3 flash - long pause	Option 3 Brake off	Yes/No	Flashes rapidly to

The Ultrafly A/30/24 & A/30/29 brushless motor

We designed two 400 size motors which are exactly the same on shaft size, outside diameter and screw holes. It will be a direct replacement for a 400 size motor. One is the power boost motor. The other is the efficiency motor.

Consumers may use the same gearbox, gear ratio,bettery & propeller but replace the motor with our brushless motor to reach two goals:

1) Power boost by 22-35% with only 8-15% more watt consumed using the power boost A/30/29 model or
2) Extend the flying time by 18-25% with the efficiency motor A/30/24 which will deliver 3-5% more power but only consume 78-85% of the original power.