

ATHENA-18/28

Electric Speed Controller for Brushless
Sensorless motor



**A new low cost-high performance, brushless, sensorless DC Motor Speed Controller —
with Hi speed CPU and quality components!**

The new Athena has the most in demand features, such as:

1. Hi Speed PWM rate up to 12khz
2. Dual BEC to support 3S LiPo batteries in helicopter applications
3. LiPo battery protection with low voltage warning and auto cut-off
4. Ability to support 4S LiPo applications

Detailed Features:

- Extremely low resistance 015 ohms (Athena-28)
- High rate (12 kHz) switching (PWM)
- Up to 18/(28 for Athena-28) amps continuous current with proper airflow — 30/(42 for Athena-28) amps surge for 15 seconds
- Dual Battery Eliminator Circuit (BEC) provides 2.0 amp (8V) stable, continuous power for your receiver and servos.
- Handles 5-8 cells with five micro servos
- Handles up to 10 cells with four micro servos
- Handles up to 12 cells with two micro servos
- Handles high-voltage applications up to 17V maximum with 4-cell LiPo batteries
- Dynamic braking ensures that folding props fold promptly
- High-temperature protection circuit
- LiPo/Li-Ion battery low voltage auto protection design. Power will be cut off at 60% of the initial voltage.
- Easy programming on brake function
- The ESC will test the motor and set the timing automatically.
- Runs motor in forward OR reverse
- Motor auto cut-off with reset
- Safe “power on” arming program prevents motor from turning on accidentally
- Low torque “soft start” prevents damage to fragile gearboxes
- Shuts down power automatically when signal is lost or radio interference becomes severe
- Hi-Speed Microprocessor controlled



- Surface Mount Technology (SMT) on the controller and programming card ensures high-quality operation

How to use the ESC:

This is a controller for a DC brushless and sensorless motor.

A signal line composed of three color thin wires comes out on one side of the ESC, along with two power lines. On top of the ESC, you will find clear positive and negative signs. The signal line should connect to the throttle control of your receiver. The power line should connect to the battery. Be sure to connect the positive red wire to the positive side of the battery.

On the other side of the ESC are three wires that should connect to your brushless, sensorless motor. You may connect these three wires as you wish. No specific order is necessary. Exchanging the connection of any two wires will cause the motor to turn in the reverse direction.

The ESC may trigger the motor to generate certain tones, which feed back to the user about the setting or confirmation. You need to connect the motor to have those tones.

*** Warning: The red wire of the power line should connect to the positive side of your battery, and the black wire of the power line should connect to the negative side of your battery. Connecting these wires incorrectly will damage the ESC, and improper connection to the battery is not covered by the warranty. Double-checking your connections is extremely important to the ESC and your safety!**

The only programmable feature is the brake. You may use the transmitter to toggle the brake on or off.

Before you connect the battery to the ESC, move your transmitter throttle stick to the upper most position then connect the battery. When you hear the beeping sound, it means the brake has been toggled. You may disconnect the battery now.

Throttle Reverse in certain Radio system

There are many different RC Radio systems in the market. For the throttle control, maximum power in certain radio system could be the low position. You need to set up the radio throttle control to reverse so that you may use the ESC correctly.

Start to use the ESC & Arming the ESC

The ESC will not drive the motor until you arm the ESC. This is a protection design. You have to move the throttle stick to its lowest position so that you can arm the ESC after you connect the battery to ESC. Once the ESC has been armed you will hear a special tone to confirm.