

Thank you for purchasing Aerostar Brushless Electronic Speed Controller (ESC). Designed for fixed wing, it features super smooth start up, linear throttle, multiple protection features, and a great value for the cost. Please read this manual carefully before using this product. Hobbyking has no control over the use, installation, application, or maintenance of this product, thus no liability shall be assumed nor accepted for any damages, losses of costs resulting from the use of this item.

AEROSTAR SERIES SPECS

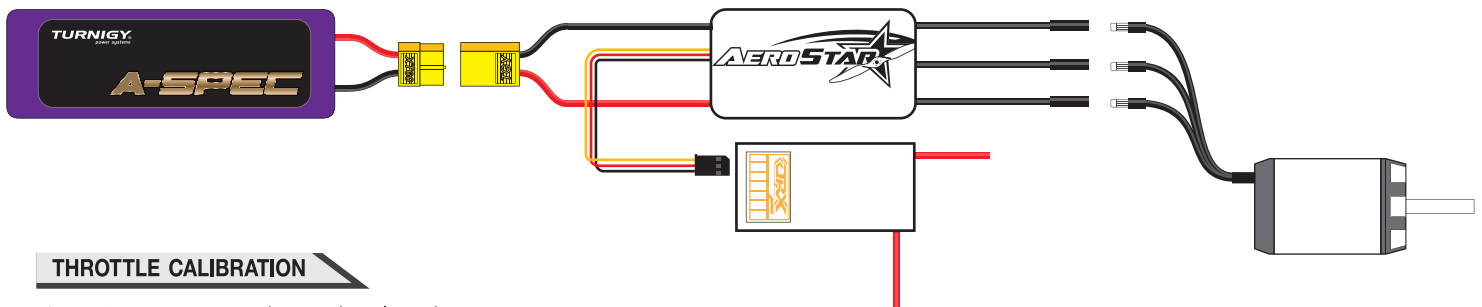
Type	Size (MM)	Cont/Burst Current (A)	Battery Cell NiXX/LiPo	Weight (g)	BEC Output	Connector
Aerostar 20A	25x43x8	20/30A	5-12NiXX/2-4LiPo	24g	5V/2A	XT60
Aerostar 30A	25x43x8	30/40A	5-12NiXX/2-4LiPo	26g	5V/2A	XT60
Aerostar 40A	27x52x11	40/50A	5-12NiXX/2-4LiPo	36g	5V/3A	XT60
Aerostar 50A	30x56x14	50/60A	5-18NiXX/2-6LiPo	44g	5.5V/5A	XT60
Aerostar 60A	30x56x14	60/70A	5-18NiXX/2-6LiPo	44g	5.5V/5A	XT60
Aerostar 70A	37x68x14	70/80A	5-18NiXX/2-6LiPo	80g	5.5V/5A	XT90
Aerostar 80A	37x68x14	80/90A	5-18NiXX/2-6LiPo	82g	5.5V/5A	XT90

FEATURES

- ▶ Pre-Installed motor and battery connectors
- ▶ Propeller brake
- ▶ Battery Type
- ▶ Low voltage cutoff treshold
- ▶ Adjustable motor timing
- ▶ Soft start mode for helicopters and gearboxes
- ▶ Heli mode
- ▶ Motor rotation
- ▶ Over heat and lost signal protection
- ▶ Low voltage cut-off type

CONNECTING YOUR ESC

Aerostar ESC's have pre-installed female bullet connectors making ESC motor connection easy. Upon testing if you find motor rotation reversed, simply swap any two of the three motor wires. Battery connectors are sized to accommodate the amp rating of the ESC. If changing motor or battery connectors, carefully solder and then protect the connections with heat shrink tubing. Plug the servo connector into the throttle channel of your receiver. Consult your radio's instructions for the proper channel mapping.



THROTTLE CALIBRATION

- 1) Turn On transmitter and move throttle stick to 100%
- 2) Connect battery pack to transmitter. After 2 seconds, the ESC will beep twice quickly, four times. After you hear these quick beeps, pull the throttle stick to 0% throttle position and wait for the arming sequence beeps.

*Note: Throttle calibration will be saved and only need to be done once for the given transmitter. When switching transmitters, repeat calibration process.

****Warning**** Remove propeller from motor before programming ESC in case of accidental start up. Failure to do so may result in personal injury.

DEFAULT SETTINGS

Brake:	Off	Heli Mode:	Off
Battery Type:	LiPo w/ Auto Cell Detect	Motor Rotation:	Forward
Low Voltage Cutoff:	Medium (3.2V/60%)	Frequency:	16kHz
Timing:	Automatic	Voltage Cutoff Type:	Reduce Power
Start Up Acceleration:	Soft		

TONES SEQUENCE AND CODE

Programmable Item/Tone	Value
Throttle Calibration (Within first Sec) ••••••	
1. Brake • • • •	Brake On/Off *
2. Battery Type □ □ □ □ □□ □□ □□ □□	NiCd/NiMh LiPo *
3. Low Voltage Cutoff Threshold •••••• •••••• •••••• •••••• •••••• •••••• ••••••	Low 3.0V /50% Medium 3.2V / 60% * High 3.4V / 65%
4. Restore Factory Default - - - - -	Restore
5. Motor Timing - - - - - - - - - - - - - - -	Automatic (7-30°) * Low (7-22°) High (22-30°)
6. Start Up Acceleration □□ □□ □□ □□ □ □ □ □ □□□ □□□ □□□ □□□	Soft * Normal Hard
7. Heli Mode • • • • •• •• •• •• ••• ••• ••• •••	Governor Off * Heli Mode 1 Heli Mode 2
8. Motor Rotation W W W W	Forward * / Reverse
9. Switching Frequency // // // // \\ \\ \\ \\	8kHz 16kHz *
10. Low Voltage Cutoff Type □-□-□-□- -□-□-□-□-	Reduce Power * Hard Cutoff

CHANGING MOTOR ROTATION

Except by program card , the motor rotation of Aerostar series ESC can also be changed by the added throttle channel as followed steps :

- 1 , Connect the 3P signal cable with the Channel of throttle.
- 2 , Connect the 2P signal cable with the Channel of reverse switch .
- 3 , Power the ESC ,hear "Beep" from motor .
- 4 , Confirming the reverse switch is off .
- 5 , Confirming the motor can start normally and pull the throttle to ZERO position.
- 6 , Turn on the reverse switch.
- 7 , Push throttle when the motor stop running , the motor rotation will be reversed.
- 8 , If you want to change motor rotation back to normal ,please repeat the step 5 and 6.

ENTERING PROGRAMMING MODE

1. Turn On the transmitter and set the throttle stick to top position (100%)
2. Plug the battery pack into the speed control.
- 3) Wait 2 seconds, you will hear four groups of 2-beep sets. This is for calibration. After several more seconds, the speed controller will start to cycle through programming menu options.

SELECTING DESIRED VALUE

The motor emits audible tones in the order and sequence in the chart above. For each option, the tone is repeated 4 times before cycling to the next option. When the desired value tone is audible, move the throttle stick all the way down to select. This will save the setting, exit programming menu and arm the motor. To change additional values, enter programming mode through the sequence described above.

TROUBLE SHOOTING

Trouble	Possible Reason	Action
No motor function or audible tones. Receiver/servos do function.	ESC has not been calibrated to transmitter	Calibrate ESC to throttle stick per instructions above
No motor, no audible tones, or radio function	No power	Replace with freshly charged battery
	Poor solder connections	Resolder cable connectors
	Wrong battery polarity	Check and verify cable polarity
	ESC receiver lead is plugged to receiver backwards	Verify ESC receiver cable is plugged into receiver correctly
Motor runs in reverse rotation	Faulty ESC	Replace ESC
	Wrong battery polarity	Swap any two of the three motor wires, or reverse through ESC programming menu option
Motor stops running during use	Lost throttle signal	Check radio equipment including proximity of ESC to receiver antennas
	Battery pack voltage has reached the set low voltage cutoff threshold	Land model and replace with fully charged battery
	Bad cable connection	Check cable connections, replace any faulty connectors
Motor mis-starts, ESC overheats	Inadequate ventilation	Relocate ESC to location with better airflow
	Servo current too high for ESC BEC	Use external BEC unit or servos with lower current draw. Check for no binding servos
	Oversize motor or propeller	Reduce propeller size or motor