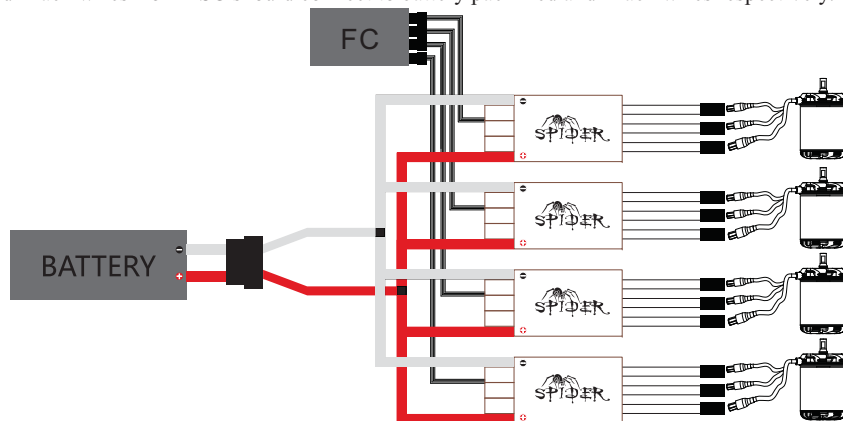


## Spider-Series Brushless ESC User Manual V2

Thank you for purchasing ZTW Spider Series Brushless Electronic Speed Controller (ESC). Spider series ESCs are especially designed to meeting the demand of ever popular multirotors. Spider ESCs carry the features and workmanship of our products has been. Most of all the stability of this series will keep your craft safe in the air This product is no toy, please use it carefully. ZTW and its reseller are not responsible for your use of this product, or any damage or injuries you may cause or sustain as a result of it's usage.

### Connecting your ESC:

- Connect your controller with motor wires.
- Solder appropriate connectors to the battery wires.
- Insulate all solder connectors with heat shrink tubes.
- Plug signal cable into throttle channel in the receiver.
- Red and Black wires from ESC should connect to battery pack Red and Black wires respectively.



### Features:

- Use new generation of the MOSFETs to make sure the ESC low heating and high reliability .
- Supports high RPM motors, can be matched with most of the motors in the RC market .
- Super smooth and accurate throttle linearity.
- Super fast Refresh Rate up to 600Hz.
- Extremely low internal resistance.

### Throttle Calibration

When you use the ESC for the first time, we would like to suggest you calibrate your throttle end point of your radio system. This will make the throttle response better. Please see following steps of how-to:



1. Power on your radio and push your throttle stick to 100%
2. Then connect battery to your ESC, you will hear two “beeps” from motor to confirm the end point after three seconds
3. Pull throttle stick back to 0%, you will hear two “beeps” from motor confirm the lowest end point.



4. Throttle calibration is done. Please recycle your battery to use the ESC.



### Enter Programming Mode

1. Power on your radio and push throttle stick to 100% position
2. Then connect battery to your ESC, you will hear two “beeps” from motor indicating that you are in the programming mode.
3. You will hear two different beep from the motor which indicate different menu. When you hear the beep you want you can pull throttle stick to 0% position. Note: 1 short beep means the you are in the “mode menu”, two short beep means you are in the “motor timing” menu.
4. When you enter a specific menu, the motor will keep beeping till you choose a value by pushing the throttle stick to 100% position.
5. If you want to quit please disconnect the battery to save the setting. Or keep listening the beeps from the motor.

### Sound Indication Table

Menu	1 Short Beep	2 Short Beep	3 Short Beep	4 Short Beep	1 Long Beep	Long(1) +Short(1)
Mode	Mode1	Mode2				
Motor Timing	Auto	2°	8°	15°	22°	30°

NOTE: The item marked in gray is the default setting from factory. Mode 1 and Mode2 are designed to cater for different KV motors. If model1 would not power your motor smoothly please change it to mode2. Normally model1 would work in most circumstances.

### Specifications:

Type	PN#Model	Cont./Burst	Max.Power	Battery cell	Weight	BEC	Size(mm)	User
		Current(A)	W	NiXX/Lipo	(g)	Output	W*L*H	Program
Spider 20A OPTO	5020301	20A\30A	380	5-18NC /2-6Lipo	23	NONE	25*43*9	NO
Spider 30A OPTO	5030301	30A\40A	500	5-18NC /2-6Lipo	25	NONE	25*43*9	NO
Spider 30A OPTO Small	5030311	30A\40A	500	5-18NC /2-6Lipo	24	NONE	20*47*8	NO
Spider 40A OPTO	5040301	40A\50A	630	5-18NC /2-6Lipo	33	NONE	27*52*10	NO
Spider 50A OPTO	5050301	50A\60A	750	5-18NC /2-6Lipo	48	NONE	37*52*10	NO
Spider 60A OPTO	5060301	60A\70A	880	5-18NC /2-6Lipo	50	NONE	37*52*10	NO

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