DUALSKY® XController Brushless ESC
Programming Instructions

Thank you for purchasing our Electronic Speed Controller (ESC) for sensor less brushless motor. High power system for RC model can be very dangerous, we strongly suggest you reading this manual carefully.

Feature Explanation:

1. **Brake Settings**：Brake Enabled / Brake Disabled, default is Brake Enabled
2. **Battery Type**：Li-xx(Li-ion or Li-poly) / Ni-xx(NiMh or Nicd)，default is Li-xx.
3. **Low Voltage Protection Mode(Cutoff Mode)**：Power Reducing / Power Cutoff, default is Power Reducing.
4. **Low Voltage Protection Threshold(Cutoff Threshold)**：Low / Medium / High, default is Medium.
   1) For Li-xx battery，number of battery cells are judged automatically，low / medium / high cutoff voltage for each cell are: 2.5V/2.75V/3.0V.
   2) For Ni-xx battery, low / medium / high cutoff voltages are 60%/65%/70% of the startup voltage.
5. **Startup Mode**：Normal /Soft /Super-soft, default is normal startup.
   Normal is good for fixed-wing aircraft. Soft / Super-soft are good for helicopters, the initial speeds of soft / super-soft mode are pretty slow, 1sec(soft startup) / 2secs(super-soft startup) from startup to full speed. But if throttle is closed (throttle stick moves to bottom)and opened again(throttle stick moves up) within 3 seconds after the first startup, the startup will be in normal mode to get rid of the chances of crash caused by slow throttle response in aerobatic fly.
6. **Timing**：Low / Medium / High, default is Medium.
   In normal cases, low timing can be used for most motors. But for high efficiency, we recommend the **Low** timing for 2 poles motor and **Medium** timing for 6 poles and above. For higher speed, **High** timing could be used.
   Attention: High timing could cause problem with some motors. Please test on ground first!

Normal startup procedure:

Switch on transmitter, move throttle stick to bottom	Connect battery pack to ESC, special tone like “beep” means power supply is OK	When self-test is finished, “beep-beep” tone should be emitted	Move throttle stick upwards to go flying

Throttle range setting: (Throttle range should be set each time when using a new transmitter)

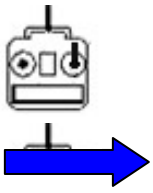
Switch on transmitter, move throttle stick to top	Connect battery pack to ESC, and then wait for about 2 seconds	Beep----□long tone should be emitted, means	Move throttle stick to bottom, wait for about 1 seconds	揃 eep-beep□tone should be emitted, means throttle range lowest point has been confirmed	Move throttle stick upwards to go flying

Programming with transmitter(4 Steps):

1. enter programming mode
2. select items
3. set item value
4. exit programming

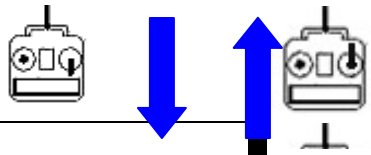
1. Enter programming mode

1) Switch on transmitter, move throttle stick to top, connect the battery pack to controller
2) Wait for 2 seconds, the controller should emit long tone like “beep-----”
3) Wait for another 5 seconds, special tone like “♪5-6-5” should be emitted, this means



2. Select items:
After entering programming mode, you can hear 8 tones in a loop in following sequence. After one tone within 3 seconds, if you move the throttle stick to bottom, then this item is selected.

1.	“beep”	brake	(1 short tone)
2.	“beep-beep”	battery type	(2 short tone)
3.	“beep-b-beep”	cutoff mode	(3 short tone)
4.	“beep-b-b-beep”	cutoff threshold	(4 short tone)
5.	“beep-b-b-b-beep”	startup mode	(5 short tone)
6.	“beep-b-b-b-b-beep”	timing	(6 short tone)
7.	“beep-b-b-b-b-b-beep”	set all to default	(7 short tone)
8.	“beep-b-b-b-b-b-b-beep”	exit	(8 short tone)



3.Set item value:
You will hear tones in loop. Set the value matching to a tone by moving throttle stick to top after hearing this tone,then you can hear the special tone “♪5-6-5” means the value is set and saved. (Keeping the stick at top, you will go back to step 2 and you can select other items; Moving the stick to bottom within 2 seconds, you will exit the programming mode directly)

Tones / Items	“beep-” 1 short tone	“beep-beep-” 2 short tones	“beep-beep-beep” 3 short tones
Brake	Off	On	
Battery type	Li-ion / Li-poly	NiMh / Nicd	
Cutoff mode	Reduce power	Shut down	
Cutoff threshold	Low	Midium	High
Startup mode	Normal	Soft	Super soft
Timing	Low	Midium	High

4.Exit prgramming

There are 2 ways to exit programming:

1. In step 3, after special tone “♪5-6-5”, move throttle stick to bottom within 2 seconds.
2. In step 2, after “8 short tone”, move throttle stick to bottom within 3 seconds.