— DUALSKY® XController Lite Brushless ESC —

Operating Instruction

Specifications

The XController Lite Brushless ESC speed controllers are small, micro-processor controlled units providing proportional control of brushless electric motors.Carefully read through these instructions and the safety information before connecting and using the unit for the first time.

XC-65-Lite	
Motor current	65 A, peak 80 A
Battery type (cell count)	LiPo (2 – 6cells) or NC/NiMH (6 – 18 cells)
Dimensions	72 x 33 x 12 mm
Weight	61 g
BEC	5.2 V max. 4 A
Clock frequency	10 kHz

XC-45-Lite	
Motor current	45 A, peak 60 A
Battery type (cell count)	LiPo (2 – 3 cells) or NC/NiMH (5 – 9 cells)
Dimensions	67 x 25 x 7 mm
Weight	38 g
BEC	5.2 V max. 3 A
Clock frequency	10 kHz

XC-22-Lite	
Motor current	22 A, peak 30A
Battery type (cell count)	LiPo (2 – 3 cells) or NC/NiMH (5 – 9 cells)
Dimensions	47 x 26 x 7 mm
Weight	22 g
BEC	5.2 V max. 2 A
Clock frequency	10 kHz

XC-12-Lite	
Motor current	12 A, peak 16A
Battery type (cell count)	LiPo (2 – 3 cells) or NC/NiMH (5 – 10 cells)
Dimensions	28 x 18 x 6 mm
Weight	7.5 g
BEC	5.2 V max. 1 A
Clock frequency	10 kHz

Features	
BEC	Integral receiver power supply
hec	High pulse frequency for fine proportional control.
POR	Power-on guard, prevents accidental motor start-up
TP	Thermal overload protection
PCO	Low-voltage power-off
Rx filter	Switches off the controller if the signal fails or is invalid.

Connections

1. Connect the three motor wires to the wires attached to the motor; if the motor rotates in the wrong direction, swap over any two wires.
2. Connect the receiver lead to the throttle socket at the receiver.
3. When the Roxxy BL-Control 7xx BEC is connected to the battery, it emits an audible signal according to the set battery type (LiPo battery: 2 x or 3 x beep, depending on cell count. If connected to a NC or NiMH pack, you will hear a melody instead of the beeps).

Programming the Stop / Full throttle position

1. To program the full-throttle position, switch the transmitter on and pull the throttle stick upwards.
2. Connect the controller to the battery and wait for about two seconds (power-on melody followed by beep sequence for cell count).
3. The unit emits a long beep: this means that the full-throttle position has been detected.
4. Move the throttle stick down and wait about one second: the unit emits a melody. The Stop position is now set.
5. If no confirmation signal is emitted, check that the receiver is working; alternatively operate servo reverse for the throttle channel.
6. Move the throttle stick from the Stop position in the direction of full-throttle: the motor now starts running.

Programming the parameters

1. Connect the speed controller to the motor and receiver. Do not connect a battery.
2. Switch transmitter on and move throttle stick to full-throttle.
3. Connect the battery: three-tone melody sounds - (only for LiPO:) beep sequence for cell count - long beep - three-tone melody - beep for the first programming parameter (see Parameter table). If no confirmation signal is emitted, check that the receiver is working; alternatively operate servo reverse for the throttle channel.
4. Programming mode consists of a constantly repeating cycle of the eight available parameters. These eight parameters are indicated by different beep sequences (see Parameter table).
5. To select a particular parameter, move the throttle stick to the Stop position before the beep signal for the next parameter is emitted.
6. You are now in the Settings menu, where you can select one setting from a maximum of three, depending on the parameter. The various settings are also represented by different beep sequences (see Settings table).
7. If you wish to change a setting, simply move the throttle stick upwards after the beep for the appropriate setting. A confirmation melody indicates that the setting has been adopted. Further parameters are indicated by beeps and can be selected. Or you can leave the programming mode by unplugging the battery.
8. After selecting parameter 7 or 8 the controller leaves the programming mode and works in the normal mode.

Key to the settings

1. **Brake: Brake on / Brake off. Default setting is Brake „Off“.**
2. **Battery type: Lixx / NC / NiMH. Default setting is „Lixx“.**
3. **Cut-off mode (low battery voltage): Slow reduction / Switch off. Default setting is „Slow reduction“.**
4. **Cut-off threshold: Low / Medium / High. Default setting is „Medium“.**
   Lixx batteries: the cell count is determined automatically. The cut-off voltage for Low, Medium and High are: 3.0 V, 3.2 V and 3.4 V per cell.
   Nixx batteries: Low, Medium and High are: 0%, 50% and 60% of the initial voltage.
5. **Motor start: Normal / Soft / Super-soft. Default setting is „Normal“.**
   „Normal“ mode is a good choice for fixed-wing model aircraft. „Soft“ mode is suitable for model helicopters. In „Super-soft“ mode the motor starts very slowly (approx. six seconds from Stop to full-throttle position). Special feature: if the throttle stick is moved once from the full-throttle position to the Stop position, then back to the full-throttle position within three seconds, the motor starts with the „Normal“ setting.
6. **Motor Timing: Low / Medium / High. Default setting is „Medium“.**
   The „Low“ mode can be selected for most applications. For high-efficiency two-pole motors we recommend the Medium setting. The „High“ setting is suitable for motors with six or more poles. Caution: please test the settings on the ground before flying the model.

Parameter table

Beep sequence	Parameter
1x	Brake
2x	Battery type
3x	Cut-off mode
4x	Cut-off threshold
5x	Motor start
6x	Motor timing
7x	Reset all data
8x	Exit

Settings table

Parameter	Beep 1x	Beep 2x	Beep 3x
Brake	Off	On	–
Battery type	LiPo	NC/NiMh	–
Cut-off mode	Slow reduction	Switch off	–
Cut-off threshold	Low	Medium	High
Motor start	Normal	Soft	Super-soft
Motor timing	Low	Medium	High

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