

— 双天LITE系列无刷电调 —

使用说明书

产品规格

感谢购买双天电子调速器。这是遥控模型中的高性能动力组件。首次连接和使用设备之前，请仔细阅读说明和安全信息。

XC-65-Lite	
最大电流	65 A, 峰值 80 A
电池类型	LiPo (2 – 6 cells) or NC/NiMH (6 – 18 cells)
尺寸	72 x 33 x 12 mm
重量	61 g
BEC	5.2 V max. 4 A
时钟频率	10 kHz

XC-45-Lite	
最大电流	45 A, 峰值 60 A
电池类型	LiPo (2 – 3 cells) or NC/NiMH (5 – 9 cells)
尺寸	67 x 25 x 7 mm
重量	38 g
BEC	5.2 V max. 3 A
时钟频率	10 kHz

XC-22-Lite	
最大电流	22 A, 峰值 30 A
电池类型	LiPo (2 – 3 cells) or NC/NiMH (5 – 9 cells)
尺寸	47 x 26 x 7 mm
重量	22 g
BEC	5.2 V max. 2 A
时钟频率	10 kHz

XC-12-Lite	
最大电流	12 A, 峰值 16 A
电池类型	LiPo (2 – 3 cells) or NC/NiMH (5 – 10 cells)
尺寸	28 x 18 x 6 mm
重量	7.5 g
BEC	5.2 V max. 1 A
时钟频率	10 kHz

特点	
BEC	集成接收器电源
hec	高脉冲频率，用于精细比例控制
POR	上电保护装置，可防止电动机意外启动
TP	过热保护
PCO	低电压断电
Rx filter	滤波器如果信号失败或无效，则关闭控制器

连接

1. 将三根电机电线连接到与电机的电线上；如果电机旋转方向错误，请交换任意两根电线。
2. 将接收器导线连接到接收器上的油门插座。
3. 当电调连接到电池时，它会根据设置的电池类型（LiPo 电池：2 x 或 3 x 哔哔声，具体取决于电池数量）发出声音信号。如果连接到镍电池，您会听到旋律而不是哔声）。

设定停止/全油门位置

1. 要设定全油门位置，请打开遥控器并将油门拉杆推到位。
2. 将电调连接到电池，并等待大约两秒钟（开机旋律，然后发出蜂鸣声以进行电池计数）。
3. 设备发出一声长哔声：这意味着已检测到全油门位置。
4. 向下移动油门杆并等待大约一秒钟：装置发出旋律。现在已设置停止位置。
5. 如果没有确认信号发出，请检查接收器是否在工作；或者为油门通道设成反向。
6. 将油门杆从“停止”位置向全油门方向移动：电动机就开始运行。

编程参数

1. 将电调连接到电机和接收器。不连接电池。
2. 打开遥控器，将油门杆移至全油门。
3. 连接电池：三声旋律声音 →（仅对于 LiPo:）蜂鸣声序列用于电池计数 → 长蜂鸣声 → 三声旋律 → 蜂鸣声用于第一个编程参数（请参阅“参数表”）。如果没有确认信号发出，请检查接收器是否在工作；或者为油门通道设成反向。
4. 编程模式包括八个可用参数的不断重复循环。这八个参数由不同的蜂鸣声顺序指示（请参阅“参数表”）。
5. 要选择特定参数，在发出下一个参数的蜂鸣信号之前，将油门杆移至油门低位。
6. 现在，您在“设定表”菜单中，可以根据参数从最多三个中选择一个设置。各种设置也由不同的提示音顺序表示（请参阅“设定表”）。
7. 如果要更改设置，只需在哔哔声后向上移动油门杆以获得适当的设置即可。确认旋律表示已采用设定。蜂鸣声指示可以选择其他参数。或者，您可以通过拔出电池来退出编程模式。
8. 选择参数 7 或 8 后，控制器退出编程模式，可以正常模式工作。

电调设定

1. 刹车：刹车开 / 刹车关，默认值：刹车关闭。
2. 电池类型：锂电池（锂离子或锂聚合物电池）/ 镍电池（镍镉或镍氢电池），默认值是锂电池。（请正确选择电池类型以确保低压保护模式工作正常）
3. 低压保护（关断模式）：逐渐降低功率 / 立即关闭。默认值：逐渐降低功率。
4. 低压保护阈值：低 / 中 / 高。默认值：中。
 - 对于 Li-xx 电池组来说：调速器可自动计算电池数量，低压中止保护电压：2.5v（低）/ 2.75v（中）/ 3.0v（高）
 - 对于 NI-XX 电池组来说：低 / 中 / 高三个阈值电压分别是电池组初始电压值的 0% / 50% / 60%
5. 马达启动：普通启动 / 柔和启动 / 超柔和启动，默认值：普通启动。普通启动模式适用于固定翼模型。柔和 / 超柔和启动模式适用于直升机，初始速度很慢，1 秒内（柔和启动）/ 2 秒内（超柔和启动）可从静止到全速。如果第一次启动后关闭油门并在三秒内重新启动，电调将以普通模式启动，可避免在特技飞行中因油门响应滞后造成的坠机。
6. 马达进角设置：低 / 中 / 高，默认值：中。正常情况下，低进角适用于多数马达。但是为了提高效率，我们建议对 2 极马达使用低进角设置，6 极或以上马达的使用中进角。对于较高转速的马达和大型外转子马达，可以使用高进角。
注意：请先在地面上测试好进角再飞。

参数表

哔声	对应参数
1 短音	刹车
2 短音	电池类型
3 短音	低压保护（关闭方式）
4 短音	低压保护阈值
5 短音	启动
6 短音	进角
7 短音	复位所有数据
8 短音	退出

设定表

设定项 \ 提示音	“哔” 1 短音	“哔” 2 短音	“哔” 3 短音
刹车	关闭	开启	—
电池类型	锂电池	镍氢 / 镍镉电池	—
低压保护模式	逐渐降低功率	立即关闭动力	—
低压保护阈值	低	中	高
启动模式	普通	柔和启动	超柔和启动
进角	低	中	高

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 – 6 cells) 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 30 A
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 16 A
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