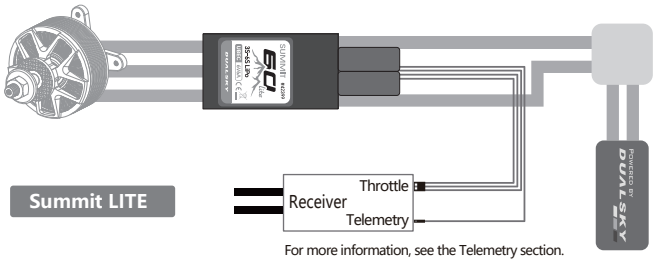
— Summit Lite BLDC ESCs —

Instruction Manual

Specification

Item No. / Name	Number of Cell	Current	UBEC	Size (L x W x T) w/o wires
#42395 **SUMMIT 16LITE**	2S-3S Lipo	16A cont. / 30A peak	6.0V 2A /4A peak	32 x 15 x 5.5 mm
#42396 **SUMMIT 22LITE**	2S-4S Lipo	22A cont. / 40A peak	6.0V 4A /8A peak	44 x 23 x 7.2 mm
#42397 **SUMMIT 30LITE**	2S-4S Lipo	30A cont. / 50A peak	6.0V 4A /8A peak	44 x 23 x 7.2 mm
#42398 **SUMMIT 45LITE**	3S-6S Lipo	45A cont. / 70A peak	6.0V 6A /10A peak	66 x 25 x 10.7 mm
#42399 **SUMMIT 60LITE**	3S-6S Lipo	60A cont. / 80A peak	6.0V 6A /10A peak	66 x 25 x 10.7 mm
#42400 **SUMMIT 85LITE**	3S-6S Lipo	85A cont. / 110A peak	6.0V 7A /10A peak	84 x 36 x 9.5 mm
#42401 **SUMMIT 130LITE**	3S-6S Lipo	130A cont. / 160A peak	6.0V 7A /10A peak	84 x 36 x 14.2 mm

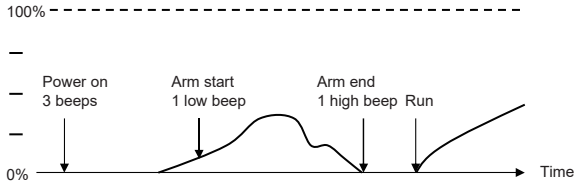
Wiring Diagram



For more information, see the Telemetry section.

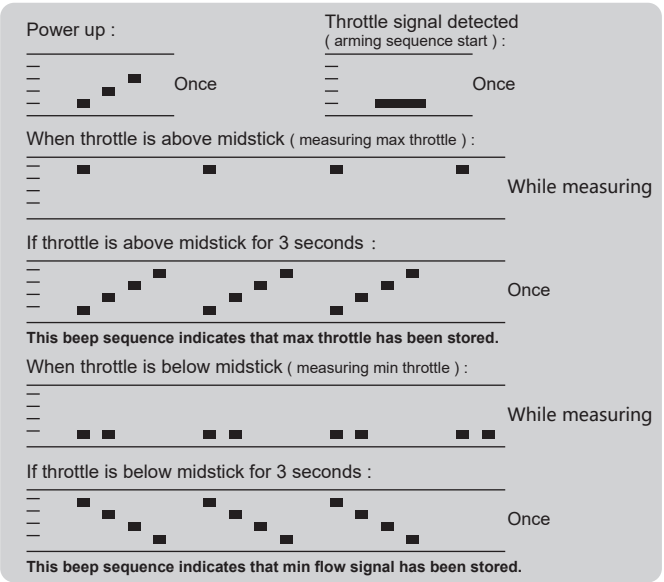
Arming sequence

The figure below shows an example of throttle value versus time.



At power on, an activated ESC beeps 3 beeps.
When throttle signal is detected, it beeps one low tone beep. This signals that input signal is detected. Then, when or if throttle is zero, it beeps one high tone beep. This signals the end of the arming sequence, and the ESC is ready to run.
Also, if more than 50% throttle is detected at arm start, the ESC starts throttle calibration.If the esc is armed and sees zero throttle for a given time, it beeps beacon beeps, which are approximately one beep per three seconds.

Throttle calibration



At this point throttle calibration values are stored. You may remove power from the ESC, or just continue running your ESC.

Telemetry

Telemetry is supported. Telemetry is designed to be compatible with the specifications from KISS 24A, and delivers the following data:
- Temperature [°C] - Voltage [V] - Current [A]
- Consumption [Ah] - Rotation speed [electrical rpm]

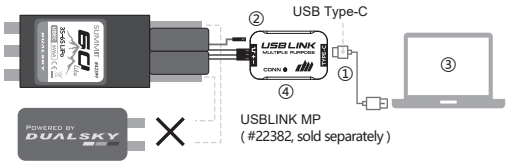
Can be converted to more mainstream R/C telemetry protocols with Dualsky TELELink (#42320, sold separately).

Programming parameters

> Default ESC Settings

- Motor Direction : Normal
- Motor Timing : 16 | 18 deg
- Minimum Throttle : 1040
- Center Throttle : 1500
- Maximum Throttle : 1960
- Low Voltage Protection : 3.00V
- Brake On Stop : Off
- Rampup Power: 50% | 100%
- PWM Frequency : 24kHz
- Throttle Calibration : Enable
- Sine Modulation Mode : Off
- Auto Telemetry : On
- Beacon Delay : 20:00 Min

- **Rampup Power :** Rampup power can be set to relative values from 3% to 150%.
- **Motor Direction :** Motor direction can be set to fwd, rev, bidirectional 3D, bidirectional 3D rev,bidirectional soft and bidirectional soft rev.
- **Motor Timing :** Motor timing can be set between approximately 1° and approximately 31°in approximately 1° increments (actual accurate values here are 15/16ths of a degree).
- **PWM frequency :** Motor PWM frequency can be programmed in a range that is preconfigured by the ESC manufacturer.
- **Demag Compensation :** Demag compensation is a feature to protect from motor stalls caused by long winding demagnetization time after commutation.
- **Sine Modulation Mode :** Sine modulation mode can give a few percent more efficient running, as well as smoother running.
- **Maximum Acceleration :** Maximum acceleration can be set between 0.1%/ms & 25.5%/ms.
- **Regenerative braking / active freewheeling :** Damped light mode is implemented by doing regenerative braking, and inherently active freewheeling is also implemented.
- **S.BUS :**S.BUS as input signal is supported.
- **Throttle Cal Enable :** If disabled, throttle calibration is disabled.
- **Temperature Protection :** Temperature protection can be enabled or disabled.
- **Low RPM Power Protect :** Power limiting for low RPMs can be enabled or disabled.
- **Low Voltage Protection :** Low voltage protection can be set between 2.5V&4.0V per lipo cell.
- **Current Protection :** Current protection can be enabled to limit current.
- **Minimum throttle, maximum throttle and center throttle :** These settings set the throttle range of the ESC.
- **Brake On Stop :** Brake on stop can be set between 1% and 100%, or disabled.
- **Auto Telemetry :** When auto telemetry is enabled, the ESC will autonomously output telemetry at 32ms intervals, regardless of whether or not there are telemetry requests from the input signal.
- **Startup Beep Volume :** Sets the volume of beeps during powerup.
- **Beacon/Signal Volume :** Sets the volume of beeps when beeping beacon beeps.
- **Beacon Delay :** Beacon delay sets the delay before beacon beeping starts.



Summit Lite ESCs Programming Software

① Connect the USBLINK MP to the PC.
② Connect the ESC to the USBLINK MP. (the ESC doesn’t need to be connected to the power battery).
③ Run the PC setting software, select the port and connect.
④ The green "CONN" indicator remains on when the connection is established.

Warranty

Dualsky electronic products warranty is for 12 months from the date of sale.
If you want to claim during the warranty period, please contact your dealer immediately.
The cashier receipt at the model store can prove whether the goods are under warranty.
Please note that the warranty period will not be extended under any circumstances. Warranty service is provided free of charge for any functional defects, production failures or material defects during the warranty period. We will pay for the return shipping cost to the user.
We will not accept any further claims, such as the user is responsible to pay the return shipping cost of the indirect damaged goods. If the shipping costs are not prepaid, we will not accept the goods. We do not accept the damage caused by transportation and do not make up for the loss of transportation. We recommend you to buy transportation insurance and send your equipment to the service center.
We can process your claim if the following conditions are met:

- Provide cashier receipts
- Operate the equipment correctly according to the instructions
- Use recommended power supplies and accessories
- The damage is not caused by water, reverse polarity, or over load
- Please provide a concise and accurate description of the fault to help us solve the problem

Thank you very much for using this product. Please use this product strictly in accordance with the manual. We do not assume any liability arising out of the use of this product or illegal modification or improper operation,including but not limited to indirect damage or joint liability, the maximum compensation is not higher than the price of the product itself. By using this product, you agree to the terms of this statement.

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ADVANCED POWER SYSTEMS

— 双天 Summit Lite 系列无刷电调 —
使用说明书

产品规格

货号 / 型号	电池串数	电流	UBEC	尺寸 (L x W x T) 不含线材
#42395 **SUMMIT 16LITE**	2S-3S 锂聚	16A 持续 / 30A 瞬间	6.0V 2A /4A 瞬间	32 x 15 x 5.5 mm
#42396 **SUMMIT 22LITE**	2S-4S 锂聚	22A 持续 / 40A 瞬间	6.0V 4A /8A 瞬间	44 x 23 x 7.2 mm
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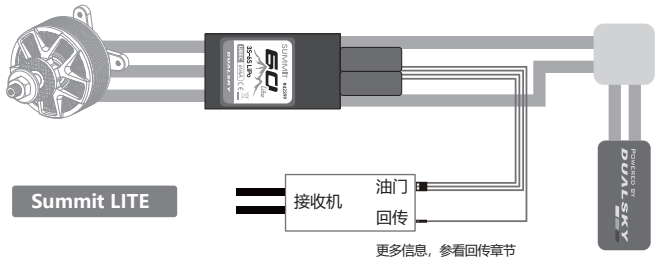
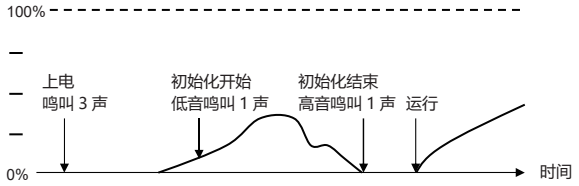
接线示意图



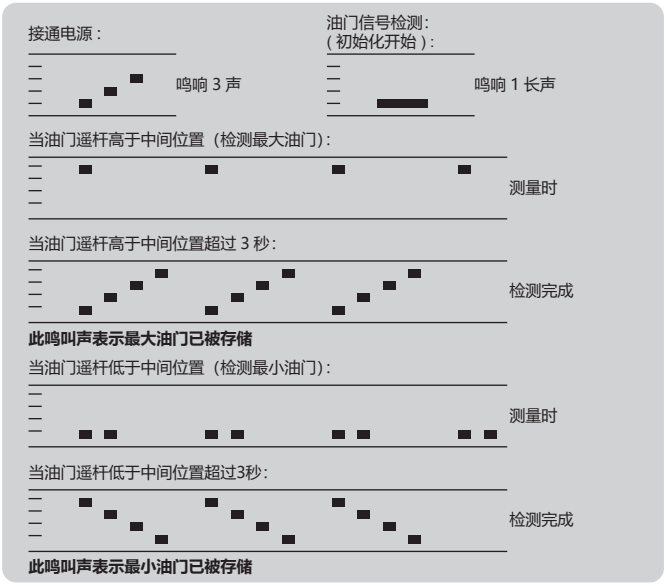
启动时序

下图显示了油门值与时间的一个例子：



接通电源时，电调鸣叫 3 声。
当检测到油门信号时，电调会发出一声低音鸣叫，这表示输入信号被检测到。如果油门信号为零，它会发出一声高音。这标志着初始化过程结束，ESC 可以运行了。
此外，如果初始化过程中检测到超过 50% 的油门值，ESC 进入油门校准程序。
初始化完成的 ESC，如果在给定的时间内保持零油门不动作，便会发出信标鸣叫声（近似每三秒响一次）。

油门校准



此时，油门校准值被存储。您可以移除 ESC 的电源，或者继续运行 ESC。

回传

支持遥测。遥测设计与 KISS 的规范兼容，数据准备如下：

- 温度 [°C]　　- 电压 [V]　　- 电流 [A]
- 功耗 [Ah]　　- 转速 [电子转速]

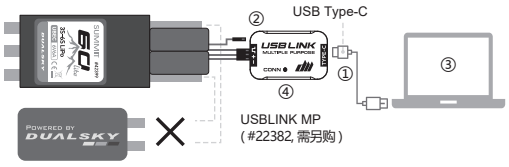
可以通过 Dualsky TELELink 转换为更主流的 R/C 遥测协议 (#42320，单独出售)

编程参数

> 默认参数

- Motor Direction : Normal
- Motor Timing : 16 | 18 deg
- Minimum Throttle : 1040
- Center Throttle : 1500
- Maximum Throttle : 1960
- Low Voltage Protection : 3.00V
- Brake On Stop : Off
- Rampup Power: 50% | 100%
- PWM Frequency : 24kHz
- Throttle Calibration : Enable
- Sine Modulation Mode : Off
- Auto Telemetry : On
- Beacon Delay : 20:00 Min

- **Rampup Power 启动功率**：启动功率可设置为相对值，范围从 3% 到 150%。
- **Motor Direction 电机方向**：电机方向可设置为正转、反转、双向 3D、双向 3D 反转、双向软启动和双向软启动反转。
- **Motor Timing 电机进角**：电机进角可在大约 1° 到大约 31° 之间设置，以大约 1° 为增量 (实际精确值为 15/16 度)。
- **PWM frequency PWM 频率**：电机 PWM 频率可在 ESC 制造商预设的范围内进行编程。
- **Demag Compensation 剩磁补偿**：剩磁补偿是一种防止因换向后绕组剩磁消退时间过长而导致电机堵转的功能。
- **Sine Modulation Mode 正弦调制模式**：正弦调制模式可使运行效率提高几个百分点，并且运行更平稳。
- **Maximum Acceleration 最大加速度**：最大加速度可在 0.1%/ 毫秒至 25.5%/ 毫秒之间设置。
- **Regenerative braking / active freewheeling 再生制动 / 主动空转**：通过实施再生制动来实现轻载阻尼模式，同时固有的主动空转也得以实现。
- **S.BUS**：支持 S.BUS 作为输入信号。
- **Throttle Cal Enable 油门校准启用**：如果禁用，则油门校准将被禁用。
- **Temperature Protection 温度保护**：温度保护功能可开启或关闭。
- **Low RPM Power Protect 低转速功率保护**：低转速功率限制功能可开启或关闭。
- **Low Voltage Protection 低电压保护**：每节锂电池的低电压保护值可在 2.5V 至 4.0V 之间设置。
- **Current Protection 电流保护**：可开启电流保护以限制电流。
- **Minimum throttle, maximum throttle and center throttle 最小油门、最大油门和中心油门**：这些设置确定了电调的油门范围。
- **Brake On Stop 停车制动**：停车制动可在 1% 至 100% 之间设置，或关闭。
- **Auto Telemetry 自动遥测**：当自动遥测功能开启时，电调将每隔 32 毫秒自主输出遥测数据，无论输入信号是否有遥测请求。
- **Startup Beep Volume 启动蜂鸣音量**：设置启动时蜂鸣音的音量。
- **Beacon/Signal Volume 信标 / 信号音量**：设置信标蜂鸣时的音量。
- **Beacon Delay 信标延迟**：信标延迟设置信标蜂鸣开始前的延迟时间。



Summit Lite
电调调参软件请扫二维码下载

① 连接 USBLINK MP 与 PC机
② 连接电调与 USBLINK MP (电调无需接动力电池)
③ 运行 PC 设定软件，选择端口并连接
④ 连接成功后，绿色 CONN 指示灯长亮

保修条例及声明

双天电子类产品自售出之日起提供 12 个月的保修服务。如果您想在保修期内索赔，请立即联系您的经销商。

模型店的收银台收据可证明货物是否在保修期内。请注意，任何情况下保修期都不会延长。在保修期内，任何功能缺陷、生产故障或材料缺陷都会免费提供保修服务，我们将支付回程费用。我们不会接受任何进一步索赔，如间接损害货物返回时需自行承担运费。如果运费未被预付，我们将不会接受货物。我们不接受运输造成的损害，也不弥补运输损失。我们建议您投运输险，将您的设备安全地发送到服务中心。

满足以下条件，我们才能处理您的索赔：

- 提供收银台收据
- 按说明书正确操作调速器
- 使用推荐的电源和配件
- 不是因为进水，反极性，重载而造成的损害
- 请提供一个简洁、准确的故障描述，帮助我们解决问题

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