

Armor 65 Lite



感谢您购买本产品，请严格遵守本手册要求使用您的产品。Makefire官方网站 www.makerfire.com 有indoor FPV brushless相关产品的专题网页，您可以通过该页面获取最新的产品信息及用户手册。使用产品前请到本产品专题网页依据版本号确认是否为最新版本手册，如果不是，请下载并使用最新版本手册。本手册如有更新，恕不另行通知。

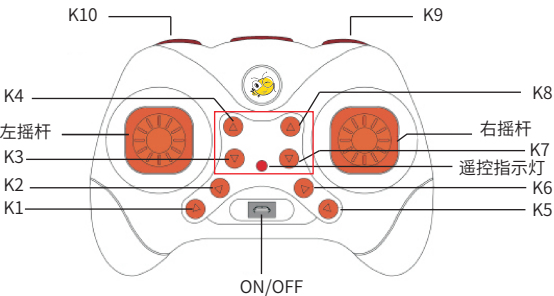
产品配件清单

Armor 65 Lite 飞行器 *1	备用螺旋桨 *4
2.4GHz 遥控器 *1	桨叶快拆螺丝刀 *1
3.8V Lipo *1	数字贴纸 *2
USB 充电器 *1	造型贴纸 *1

产品参数

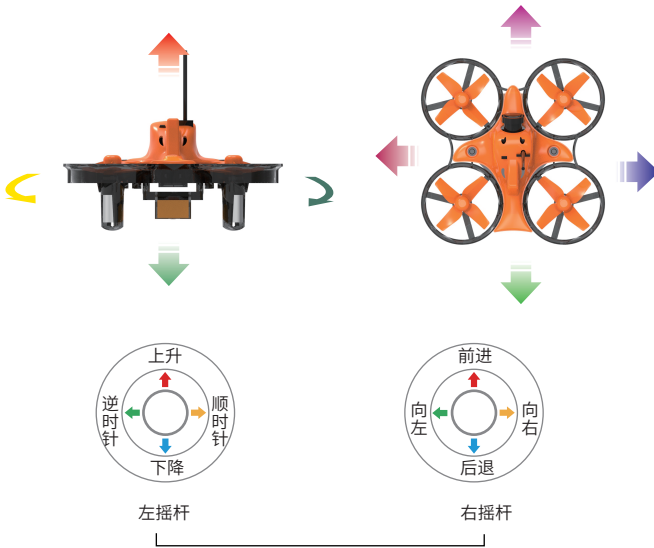
机架：65mm PP材质机架	FPV摄像头图传：25mW/120°广角/800TVL
重量：32.5g（含电池）	动力电接口：JST-PH2.0
飞控：Tiny lite FC	锂电池：300mAh /3.8V/1S/Lipo
遥控器：Tiny lite RC	飞行时间：4分20秒
电机：17600KV（65000rpm@3.7V）	最大飞行距离：100 m
桨叶：31mm四叶桨	

遥控器面板介绍



K1: 航向微调-	左摇杆：前后是油门（Throttle）
K2: 航向微调+	左右是航向（Yaw）
K3/K4: 无功能定义	右摇杆：前后是俯仰（Pitch）
K5: 横滚微调+	左右是横滚（Roll）
K6: 横滚微调-	指示灯：电源指示灯
K7: 俯仰微调-	ON/OFF：遥控器电源开关按键
K8: 俯仰微调+	备注：在NFE_Silverware固件下，Ch5是解锁通道
K9: Ch6（第六通道）	Ch6是自稳/Acro切换
K10: Ch5（第五通道）	

姿态操控示意图



Bayang协议遥控器配置

Step1

Armor 65 lite接入电池后，飞控板的状态指示灯会同时慢闪6次然后进入快速闪烁模式。快速闪烁模式制式飞控进入对频模式。

Step2

打开遥控器电源开关蜂鸣器会有一声“嘀”声提示音。遥控器在开机时会自动进入对频模式，完成对频飞控状态指示灯会进入常亮状态同时遥控器有“嘀”声提示音。

如果完成对频后，关闭遥控器，飞控的状态指示灯会进入慢闪状态。

特别注意：如果先打开遥控器再将Armor 65 lite 接入电池，不能正常对频。更换电池需要重新对频。

Armor 65 Lite无线电发射器

玩具无人机的无线电发射器

如JJRC H67, Eachine E011等，Bayang协议遥控器可以直接完成对频起飞

T8SG无线电发射器

T8SG首次与Armor 65 lite 进行对频，T8SG默认基础通道映射不变。接收机类型选择设定为"Bayang"，完成对频需要设置解锁通道。

支持Bayang协议的其他4合1多协议模块

MTX-9D多协议模块（适用于Frsky Tanaris QX7 X9D X9D Plus X12S, Flysky TH9X, Turnigy 9XR / 9XR PRO）

注意：产品BNF版本默认六通道，如果使用多协议模块存在通道映射不对应，建议重新定义通道映射关系。

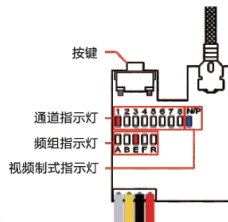
如果不确定您的无线电发射器是否可以支持该飞控板，请发送电子邮件给我们（Support@makerfire.com）寻求帮助。

支持的图传系统

Armor 65 Lite配置25mW/40通道一体摄像头图传，具有宽动态、高清、广角、无延时的特点，一体式设计重量轻、体积小，支持按键选频和频率组选择，支持NTSC/PAL制式切换和垂直倒像切换功能。图传频率通过LED状态指示，8LEDS显示信道，5LEDS显示频率组信息，具体对应频率值请参考图传对应频段表。

参考产品示意图：

长按5秒可切换NTSC/PAL制式
长按两秒按键可切换图传信息频率组
短按1秒按键调节当前频率组对应的信道
完成调频操作将自动保存配置的频点和频组，断电后保存数据不丢失。



图传频段对应表

	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865MHz	5845MHz	5825MHz	5805MHz	5785MHz	5765MHz	5745MHz	5725MHz
B	5733MHz	5752MHz	5771MHz	5790MHz	5809MHz	5828MHz	5847MHz	5866MHz
E	5705MHz	5685MHz	5665MHz	5645MHz	5885MHz	5905MHz	5925MHz	5945MHz
F	5740MHz	5760MHz	5780MHz	5800MHz	5820MHz	5840MHz	5860MHz	5880MHz
R	5658MHz	5695MHz	5732MHz	5769MHz	5806MHz	5843MHz	5880MHz	5917MHz

充电说明

- 1.在电池亏电状态时及时充电。
- 2.需将USB充电器的开关切换到4.35V时再充电。
- 3.充电过程中红灯常亮，充满红灯熄灭。

NotFastEnuf/NFE_Silverware

NFE_Silverware是一些微型quadcopters的固件，主要适用于室内的Whoop FPV飞行，支持level模式和acro模式。飞控源代码开源，开放自定义构建的设置，或在源代码中修改调整参数设置。在飞行控制及操作优化客户体验，Silverware支持摇杆（也称为手势）来更改切换飞行模式、调整参数、校准加速度计、保存参数设置等等。更多内容可以扫码以下二维码获取（部分网站需要翻墙）。



（RCgroup烧录指导）



（Makerfire wiki）



（NFE_Silverware）

摇杆模式



免责声明

本产品是一款多旋翼飞行器，建议16岁以上的青少年使用。未满16岁青少年须在专业人士陪同和监督下使用本产品，在有儿童出现的场景操作时请务必特别小心注意。

使用本产品之前，请仔细阅读本文档。本声明对安全使用本产品以及您的合法权益有着重要指导作用。在电源正常工作及各部件未损坏的情况下将提供轻松自如的飞行体验。务必在使用产品之前仔细阅读本文档，了解您的合法权益、责任和免责声明并清楚使用本产品过程中可能带来财产损失、安全事故和人身安全隐患。一旦使用本产品，即视为您已理解、认可和接受本声明全部条款和内容。使用者承诺对自己的未按规定操作行为及因此而产生的所有后果负责。使用者承诺仅出于正当目的使用本产品，并且同意本条款及我司可能制定的任何相关政策或者准则。我司不承担因不按照本安全指引使用本产品所造成的任何直接或间接的人身伤害及财产损失的相关赔偿责任。

产品使用注意事项

高速旋转的螺旋桨会给人和物带来不同程度的伤害和破坏，请时刻铭记安全意识于心。

- 新手初飞请在教练陪同下进行。
- 本产品属于穿越竞速类产品，使用前请远离不安全因素，如障碍物、人群、高压线等。
- 切勿贴近或接触旋转的电机或螺旋桨，避免被旋转螺旋桨割伤。
- 飞行前请检查整机性能，确保无开路、无短路。
- 使用前请检查螺旋桨和电机是否安装正确及紧固。
- 产品软件升级等维护请拆除桨叶，避免误操作带来严重的后果及损失。
- 使用前请检查各零部件是否完好，如有部件老化或损坏，请及时更换部件。
- 请尽量使用本公司的提供的零配件。
- 飞行请在遥控可控范围操控，避免造成不必要损失。

售后服务与支持



制造商：深圳市创客火科技有限公司
网址：www.makerfire.cn
联系电话：400-830-2598
邮箱：service@makerfire.com
地址：深圳市龙岗区坂田街道里浦街7-1号2楼

Armor 65 Lite



Thanks for purchasing this product, and please use your products based on the manual strictly. Makerfire's official website (www.makerfire.com) has a special page for indoor FPV brushless related products, which you can use to get the latest product information and user manual. Before using this product, please check the version number on Makerfire's website to make sure it is the latest version of manual. If not, please download and use the latest verion of manual. Makerfire will update the manual at times to meet the changes of produtcs.

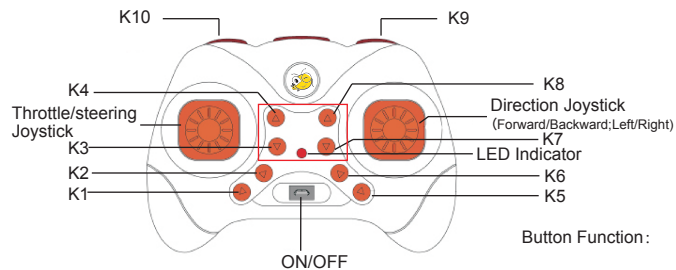
Product parts diagram

- | | |
|---------------------------|-----------------|
| 1× Armor65 Lite RTF | 4× Propellers |
| 1× Radio Transmitter | 2× Screws |
| 1× 300mAh 1S 3.8V Battery | 1× Service Card |
| 1× One-way 4.35V Charger | 3 x Sticker |
| 1× Propeller Tool | |

Product parameter

Wheelbase: 65mm	VTX : 5.8G/40CH/25mW
Flight controller: Tiny Lite Silverware FC	Camera : 800TVL/120°
Remote: Tiny lite RC	Battery: 300mAh /3.8V/1S/30C/Li-HV
Motor : 17600KV (65000rpm@3.7V)	Flight time: 4min20second
Propeller: 4-Blade 31mm	Remote Distance: 100 meters

Remote control panel introduction

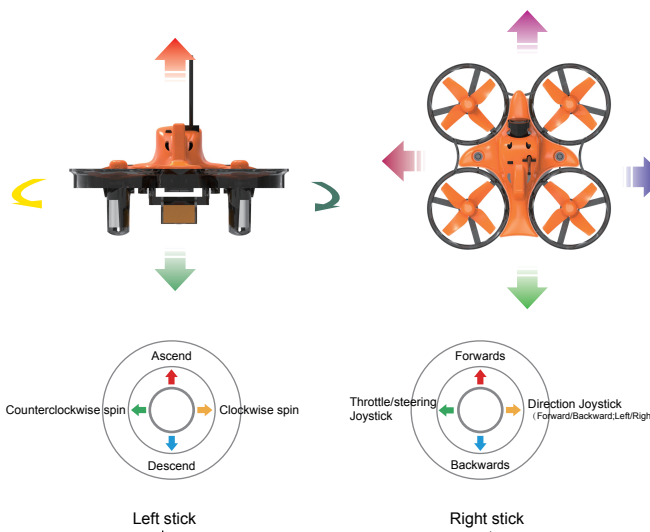


K1:YAW fine-tuning -
K2:YAW fine-tuning +
K5: Roll fine-tuning +
K6: Roll fine-tuning -
K7: Pitch fine-tuning +

K8: Pitch fine-tuning +
K9: Ch6
K10: Ch5

Note:Under Silverware, the Ch5 is unlock channel, Ch6 is switch for Angle/Acro

Schematic diagram of posture control



Bayang protocol remote control configuration

Step1

Power up the Armor 65 Lite, the FC indicator LED will flash slowly 6 times and then turns into fast flash mode. The fast flash mode indicates that the drone is ready to binding.

Step2

Turn on the power switch of the radio transmitter, the buzzer will make a "Di" sound. When the radio transmitter is turned on, It will automatically enter the binding mode. After finish binding, the FC indicator led will be solid, and the radio transmitter will make a "Di" sound also.

If turn off the radio transmitter after finish binding, the FC indicator led will enter a slow flashing state.

Please attention:

Turn on the radio transmitter before power up the Armor 65 Lite, the binding will fail. After changing battery, you need to re-binding.

Armor 65 Lite Radio Transmitter

Toy Drone Radio Transmitter

Such as JJRC H67, Eachine E011, etc., the Bayang protocol remote control can bind and fly directly.

T8SG Radio Transmitter

For the first time to use T8SG on the Armor 65 lite. Please make sure you choose the receiver type as "Bayang", and arm/disarm channel setting is needed after the binding.

For 4-in-1 multi-protocol modules which supporting the Bayang protocol

Such as MTX-9D multi-protocol module (Compatible with Frsky Tanaris QX7 X9D X9D Plus X12S, Flysky TH9X, Turnigy 9XR / 9XR PRO)

Note: The Armor 65 Lite BNF version default setting are six channels. Please make sure you get the right channel mapping setting, if not, it is recommended to redefine the channel mapping relationship.

If you are not sure if your radio transmitter support the Makerfire Tiny-Lite Flight Control, please email us (Support@makerfire.com) for assistance.

VTX Introduction

The 25mW/40CH AIO camera in Armor65 lite is characterized by wide dynamic,high-definition, wide angle and no delay.The light and mini AIO camera supports button and frequency choice as well as NTSC/PAL TV system. The LED will show video transmitter frequency,8 LEDS indicates the signal channel, 5LEDS indicates the frequency,the specific frequency will base on the video trasnmittter frequency chart.

Reference schematic:

Long Press can switch over the NTSC/PAL TV system.
Short Press can switch over the vertical inverted image.
Long Press can switch the frequency of the Video transmitter.
Short Press can switch over the specific signal channel of current frequency.
Finish frequency operation to configure automatically frequency point and groups.
It also is equipped with non-volatile memory function.

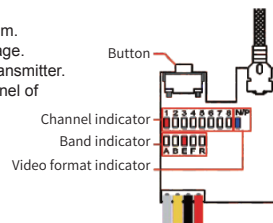


Image transmission frequency Table

	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
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R	5658MHz	5695MHz	5732MHz	5769MHz	5806MHz	5843MHz	5880MHz	5917MHz

Charging introduction

- 1 . Charge the battery in time when low voltage.
- 2 . Turn the USB charger into 4.35v before charging.
- 3 . The solid red light shows the battery is in charging, light off shows battery is in fully charged.

NotFastEnuf/NFE_Silverware

NFE_Silverware is firmware for Drones, which is opensource and mainly used on indoor FPV Racing, it supports angle or acro mode, also supports joysticks (also known as gestures) to change the flight mode, adjust parameters, calibrate accelerometers, save parameter settings, and more. More information please scan the below QR code.



(RCgroup)



(Makerfire wiki)



(NFE_Silverware)

Stick mode



Disclaimer

This product is an aircraft with multiple rotors. Teenagers above 16 years old are suggested to play. This product can be used by those under 16 years old with accompanysupervision of professionals. Please make sure that the operation is conducted in the scene where has children.

Please read this document before using this product. This disclaimer has guidance functions on using this product safely and your legitimate interest. The easy and free flight experience can be offered under the condition that the power works normally and any parts are not damaged. Be sure to read this document before using this product, to know your legal interest, responsibility and safety instruction, as well as explanation of property loss, security accident and personal hidden danger for using this product. Once this product is used, you shall be deemed that you have already known, approved and accepted all articles and contents of this disclaimer. The users promise to be responsible for their own acts don't follow regulations or the relevant results. The users promise to use this product only for proper purpose and agree this article and any relevant policies or rules stipulated by our company. Our company will not bear any direct or indirect personal injury or relevant liability for damage for using this product caused by failure to following this safety instruction.

Precaution of using product

The high-speed rotation screw propellers will bring the injury and damages, please use the quadcopter carefully.

- The green hand should be companied with the coach in first flight.
- This product is belongs to the racing drone series,please keep away from the barriers, crowd people and high-tension cable before using this product.
- Please don't close or touch the rotary motors or screw propellers to avoid any injury or hurt.
- Please check the quadcopter performance and make sure there is no open circuit or short circuit before flight.
- Please check whether the screw propellers and motor install correctly or firmly.
- Please unassemble the propeller when updating the software to avoid the serious result and loss caused by misoperation.
- Please check whether all parts are good before use the quadcopter.
- Please change the old and damaged parts on time.
- Please use the parts offered by our Makerfire company possibly Using the product within the remote range to avoid the unnecessary losses.

After-sales service and support



Shenzhen Makerfire Technology Co.,Ltd.
Website: www.makerfire.com
TEL: +86-400-830-2598
EMAIL: service@makerfire.com
Add: Room201,PanBao Building,No.7-1 LiPu Street,
BanTian LongGang Distrct,Shenzhen City,China