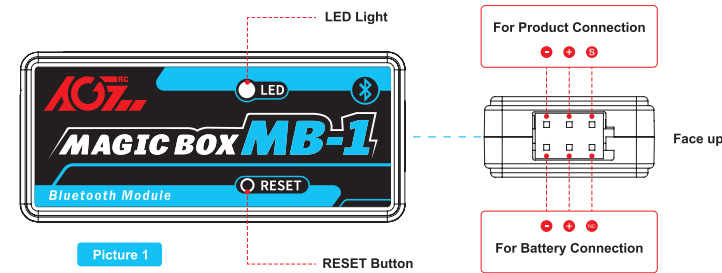


MAGIC BOX MB-1 INSTRUCTIONS

MB-1 is a Bluetooth module from AGFRC company, which needs to be used in conjunction with the APP "AGFRC LINK". Currently, it supports parameter tuning for the following products under AGF:

- 1 AGF Programmable Servo
- 2 AGF Programmable Winch Servo
- 3 AGF Programmable Gyro
- 4 AGF Programmable BEC

PRODUCT PARAMETERS

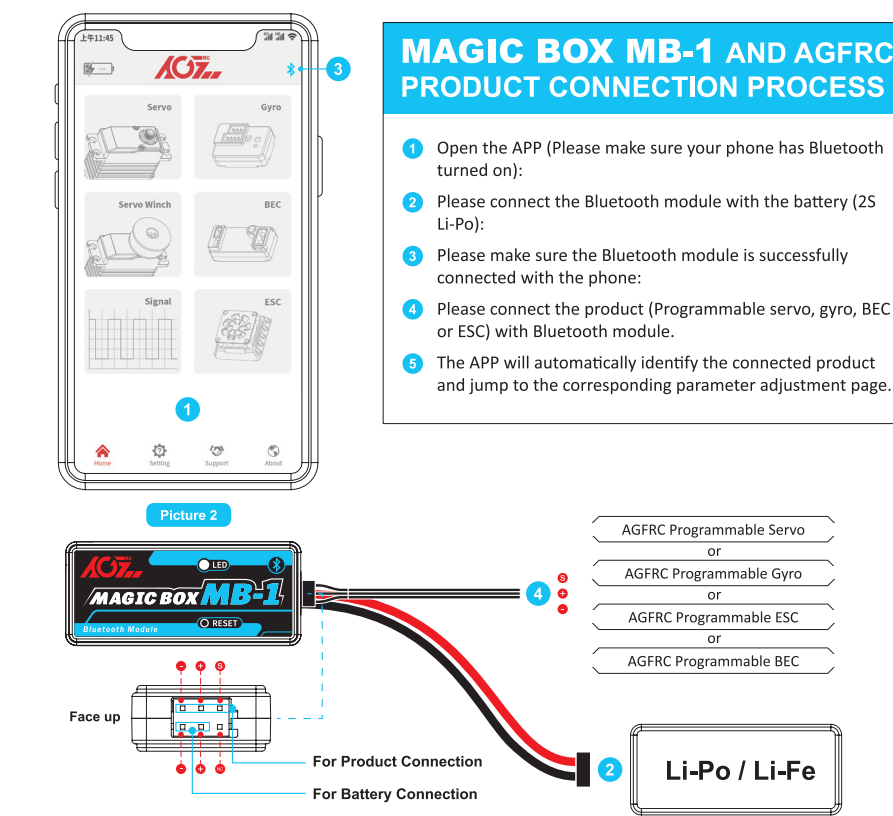


Size	43.2*19.2*9mm	Voltage supply	DC5-8.4V
Weight	6.2g	Output voltage and current	DC 5-8V / 0-3A
Static current consumption	Less than 50mA	Maximum stable distance for Bluetooth connection	10 meters (Without strong interference)

! MAGIC BOX MB-1 power supply cannot exceed the maximum power supply voltage, exceeding it will damage the connected products!

MB-1 AND APP(AGFRC LINK) CONNECTION PROCESS

- 1 Install the app "AGFRC LINK", Support Apple / Android platforms.
Attention: The first time running the APP "AGFRC LINK" requires access to the Bluetooth and location permissions of the phone / tablet, Permission needs to be opened for normal use!
- 2 Connect the power supply to MAGIC BOX MB-1 (Refer to Picture 2), Blue light flashes after successful power connection.
- 3 Open the app, Click on "Setting", After entering, click on "Bluetooth Search" to enter the Bluetooth search page, "AGF_RC" is the default Bluetooth name for MAGIC BOX MB-1, Click on "AGF_RC" and enter the initial 4-digit password "0000" (The password can be changed, but it can only be 4 Arabic numerals) Finally click "OK", A hook symbol appears on the right side of the Bluetooth name "AGF_RC" option, It indicates a successful connection, Return to the top right corner of the main interface, where the Bluetooth symbol is blue. (If there is no hook symbol on the right side of the Bluetooth name "AGF_RC" option, It is possible to select the wrong Bluetooth option or password, Please try reconnecting to Bluetooth.)
- 4 After successful Bluetooth connection, Long press the connected Bluetooth name (About 3 s), Pop up modification window, The function is to modify the name of the connected Bluetooth module (The name can be a pure number or a combination of numbers and letters) Enter the custom name in the modification window and click "OK", After the modification is completed, the APP and Bluetooth module will automatically reconnect, Automatic reconnection completed after 10 seconds.
- 5 If you forget the connection password for MAGIC BOX MB-1, Press and hold the "RESET" button on MB-1 for approximately 10 seconds to reset, After 10 seconds, the red light flashes slowly twice, The password will be reset to the initial "0000".



AGFRC DIGITAL STANDARD SIZE SERVO PARAMETER SETTINGS

- 1 **Travel Range:** Set the steering gear to the left or right and the steering angle size, The larger the value, the greater the steering angle of the servo, The servo setting range of V2 version is 1-255, The servo setting range of V3 version is 10-255, It should be noted that the left and right steering angles of the V3 version servo can be set separately, V2 and previous versions only support unified settings.
- 2 **Servo Neutral:** Set the center stop position of the servo, The servo setting range for V3 version is -25-25, while for V2 and previous versions it is -127-127.
- 3 **PWM Power:** Servo output power setting, with a range of 10% -100%.
- 4 **Damping Factor:** Servo damping setting, The setting range for V3 version is 1-255, while for V2 and previous versions it is 50-600.
- 5 **Sensitivity:** Sensitivity setting of servo, There are four levels: Ultra high, high, medium, and low.
- 6 **Soft start:** Slow start / slow centering, The servo motor detects the servo motor signal when powered on, The speed setting from the current stop position to the signal stop position, The V3 version is divided into 11 levels and cannot be closed, Levels 1-10 slowly return to the center setting, 11th gear is a quick return to center setting, V2 and previous versions of servos have an "on/off" button, "Open" means slowly returning to center mode, "Close" is a quick return to the midpoint setting.

- 7 **CW/CCW:** Servo steering settings "CW / CCW".
- 8 **Servo signal mode setting:** FUTABA_SR, FUTABA_UR, SANWA_SR. Servo support: FUTABA_SR, FUTABA_UR, SANWA_SR, When none of them are turned on, the default input signal is "Normal". Attention: V2 and previous versions of servos do not support the "FUTABA_UR" signal.
- 9 **Lose PPM protection:** Three protection methods when the servo loses signal:
 1. Not protecting;
 2. Maintain the current position (lock the position where the signal was lost);
 3. Return to the center position (locked to the stop position of the signal center for 1500Us).
- 10 **Over Load Protect:** The V2 version's servo block protection can be turned off, The V3 version of the servo does not have a shutdown button, and the protection parameters are divided into two categories:
 1. Time setting (3 levels) The setting range of V2 version is 0-25.5 seconds, The setting range of V3 version is 0-19.5s.
 2. Power setting (3 levels), setting range 0-100%.

AGFRC DIGITAL WINCH SERVO PARAMETER SETTINGS

- 1 **PWM Power:** Output power setting, Setting range 1-100%.
- 2 **ProPTL:** Set the blocking protection time, Set range 0-25.5s.
- 3 **CW/CCW:** Servo steering settings "CW / CCW".

AGFRC UBEC_10A PARAMETER SETTINGS

- 1 **Battery Type** Battery type setting: Li-Po / Li-Fe
- 2 **Battery Cells (S)** Setting the number of battery cells: selecting based on the battery used, UBEC_10A support 2-6s battery.
- 3 **Output Voltage Setting** BEC battery output voltage setting: Set range 5.0-12.0V, Set the voltage step to a minimum of 0.1V. **The voltage must be set according to the voltage resistance of the equipment used. Exceeding the voltage will damage the equipment!**
- 4 **Total UVL Warning and Single-cell UVL Warning** Setting of total warning voltage and single section warning voltage: Total warning voltage = single warning voltage * number of battery cells (S)

MB-1 CAN OUTPUT MULTIPLE SIGNAL MODES AND INPUT SIGNAL TESTING THROUGH APP SETTINGS

- 1 **Output signal support:**
 - 40Hz-333Hz signal
 - FUTABA_SR, FUTABA_UR
 - SANWA_SHR, SANWA_SSR, SANWA_SUR, SANWA_SXR
 - FlySky SFR, FlySky SR
- 2 It has input signal testing function to detect whether the control signal is correct.
- 3 "Normal" signal output supports three-point output, range setting limit, median offset setting, cycle setting, midpoint return test, and servo sensitivity test; In "Normal" mode, only the signal range can be set.
- 4 Signal testing supports the display of signal pulse width and frequency (period) for testing.

THE FUNCTIONAL VERSION OF THIS PRODUCT WILL BE CONTINUOUSLY UPGRADED. HUIZHOU AOGUANGFEI ELECTRONIC TECHNOLOGY CO., LTD. MAY UPDATE THIS DOCUMENT AND APP. IF YOU NEED TO KNOW THE LATEST FUNCTIONS, PLEASE PAY ATTENTION TO THE VERSION UPGRADE AND FUNCTION DESCRIPTION ON THE AGFRC OFFICIAL WEBSITE OR APP.

405mm

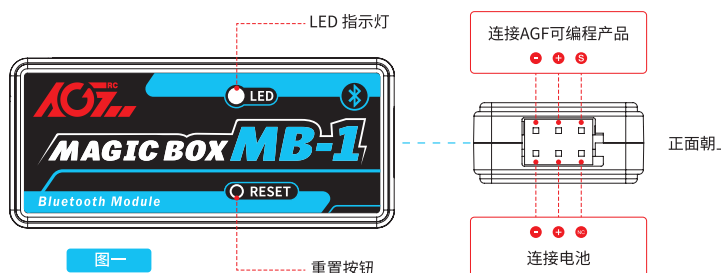
405*195mm, 三折双面彩印

MAGIC BOX MB-1 说明书

MAGIC BOX MB-1是AGFRC公司的一款蓝牙模块,他需要与APP"AGFRC LINK"配合使用,当前支持AGFRC品牌的以下产品进行调参:

- 1 AGF 可编程舵机
- 2 AGF 可编程绞盘舵机
- 3 AGF 可编程陀螺仪
- 4 AGF 可编程BEC

产品参数



外形尺寸	43.2*19.2*9mm	电压供电	DC5-8.4V
重量	6.2g	输出电压电流	DC 5-8V / 0-3A
静态耗电	<50mA	蓝牙连接最大稳定距离	10米(无强干扰)

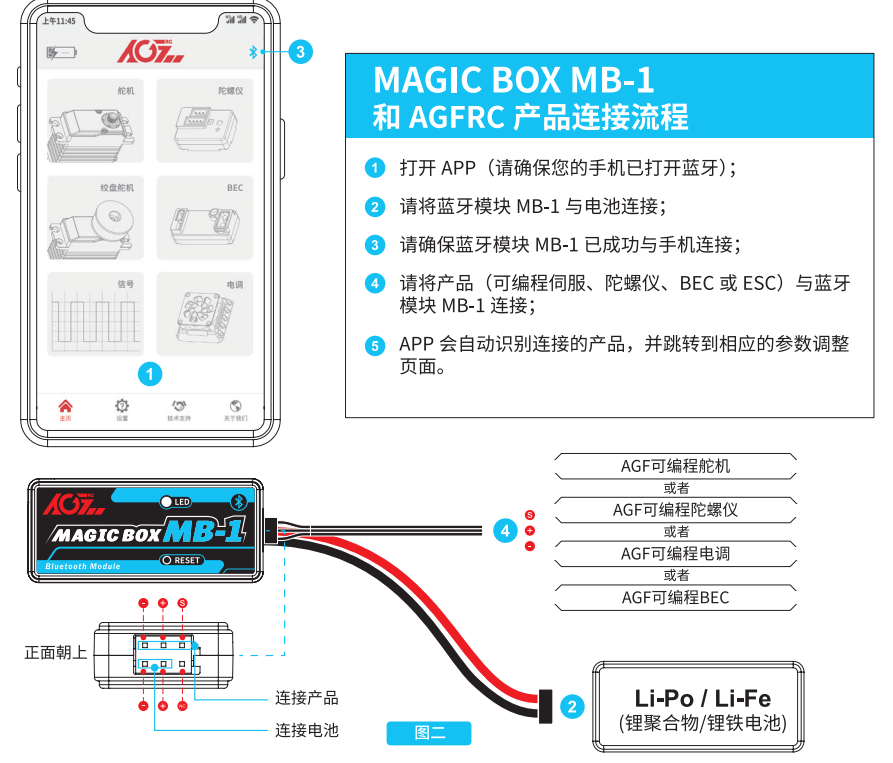
! 警告: MAGIC BOX MB-1供电不可超出最大供电电压,超出将损坏连接的产品!

MAGIC BOX MB-1与APP(AGFRC LINK) 连接流程

- 1 安装 APP"AGFRC LINK", 支持苹果与安卓平台;
注意: 第一次运行 APP"AGFRC LINK" 需要访问手机 / 平板的蓝牙与定位权限, 需要打开权限方可正常使用!
- 2 将电源连接上 MAGIC BOX MB-1 (参考图二), 电源连接成功后蓝灯闪烁;
- 3 打开 APP, 点击软件下方的 "设置", 再点击 "蓝牙搜索" 进入蓝牙搜索页面, "AGF_RC" 是 MAGIC BOX MB-1 的默认名称, 点击 "AGF_RC" 输入 4 位数的初始密码 "0000" (密码可以修改, 但只能是 4 位阿拉伯数字) 最后点击 "是", 蓝牙名称 AGF_RC 选项右边出现打钩符号, 则表示连接成功, 返回主界面右上角蓝牙符号为蓝色。(如果蓝牙名称 "AGF_RC" 选项右边未出现打钩符号, 有可能选错蓝牙选项或者密码错误, 请重新连接蓝牙);
- 4 蓝牙连接成功后, 长按 (约 3s) 已连接的蓝牙名称, 可弹出修改窗口, 修改已连接的蓝牙模块名称 (名称可以是纯数字或者数字与字母的组合) 在修改窗口中输入自定义的名称后点击 "OK", 修改完成后 APP 与蓝牙模块会自动重连, 10s 后自动重连完成;
- 5 如果忘记 MAGIC BOX MB-1 的连接密码, 可长按 (约 10s) MB-1 的 "RESET" 按键重置, 10s 后红灯慢闪 2 次, 密码将被重置为初始 "0000".

195mm

405mm



AGFRC数码标准舵机参数设置

- 1 **舵角设置:** 设置舵机向左或向右的舵角大小, 数值越大舵机的舵角就越大, V2 版本的舵机设置范围为 1-255, V3 版本的舵机设置范围 10-255; 需要注意的是 V3 版本的舵机向左和向右的舵角可以单独设置, V2 以及以前的版本只支持统一设置;
- 2 **中点微调:** 设置舵机的中心停止位置, V3 版本的舵机设置范围 -25-25, V2 以及以前的版本设置范围 -127-127;
- 3 **输出功率:** 舵机输出功率设置, 设置范围 10%-100%;
- 4 **阻尼:** 舵机阻尼设置, V3 版本的设置范围 1-255, V2 以及以前的版本设置范围 50-600;
- 5 **灵敏度:** 舵机灵敏度设置, 有超高、高、中、低 4 档;
- 6 **缓启动:** 缓启动 / 慢回中, 舵机上电检测到舵机信号, 当前停止位到信号停止位的速度设置, V3 版本分为 11 档且不可关闭, 1-10 档是慢回中设置, 11 档是快速回中设置, V2 以及以前的版本的舵机则是 "开启 / 关闭", "开启" 是慢回中模式, "关闭" 是快速回中设置;
- 7 **正转 / 反转:** 舵机转向设置 "正向 / 反向";

- 8 **舵机信号模式设置:** FUTABA_SR, FUTABA_UR, SANWA_SR
舵机支持 FUTABA_SR, FUTABA_UR, SANWA_SR, 都不开启时默认 Normal 输入信号;
注意: V2 以及以前的版本的舵机不支持 FUTABA_UR 信号。
- 9 **信号丢失保护:** 舵机丢失信号时的三个保护类型:
 1. 不保护;
 2. 保持当前位置 (锁定丢失信号时所处的位置);
 3. 回到中位 (锁定到信号中心停止位置 1500Us).
- 10 **堵转保护:** V2 版本的舵机堵转保护可以关闭
V3 版本的舵机没有关闭按钮, 保护参数分为两类:
 1. 时间设置 (3 档) V2 版本的设置范围 0-25.5s, V3 版本的设置范围 0-19.5s;
 2. 功率设置 (3 档), 设置范围 0-100%。

AGFRC数码绞盘舵机参数设置

- 1 **输出功率:** 输出功率设置, 设置范围 1-100%;
- 2 **堵转保护:** 堵转保护时间设定, 设置范围 0-25.5s;
- 3 **正转 / 反转:** 舵机转向的正反向设置。

AGFRC BEC参数设置

- 1 **电池类型:** 电池类型设置: Li-Po (锂聚合物) / Li-Fe (锂铁)
- 2 **电池节数:** 电池节数设置, 根据使用的电池选取, UBEC_10A 支持 2-6s;
- 3 **输出电压设置:** BEC 输出电压设置, 设置范围 5.0-12.0V, 设置电压步进最小 0.1V;
注意: 设置电压一定要根据使用的设备耐电压设置, 过压会损坏设备!
- 4 **总输入电压警告与单节输入电压警告:** 总警告电压和单节警告电压设置, 总警告电压 = 单节警告电压 * 电池节数

MB-1通过APP设置可输出多种信号模式及输入信号测试

- 1 **输出信号支持:**
 - 40Hz-333Hz 信号
 - FUTABA_SR, FUTABA_UR
 - SANWA_SHR, SANWA_SSR, SANWA_SUR, SANWA_SXR
 - FlySky SFR, FlySky SR
- 2 具有输入信号测试功能来检测控制信号是否正确;
- 3 **Normal** 信号输出支持三点输出、范围设置限制、中位偏移设置、周期设置、中点回中测试、舵机灵敏度测试; 自动模式下只能设置信号范围;
- 4 信号测试支持测试的信号脉宽和频率 (周期) 显示。

本产品功能版本会持续升级, 惠州奥广飞电子科技有限公司可能对本文档、APP 进行更新, 如需了解最新的功能, 请关注 AGFRC 官网或 APP 里版本升级和功能说明。

405mm

195mm