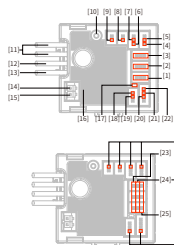


## 产品介绍 Introduction

FS-R4A1 采用 ANT 协议，是一款电调、LED 灯组控制板三合一接收机，外置单天线，可输出 PWM 信号和车灯控制信号，能够实现双向传输，采用自动对码，设计小巧紧凑，可适配多种车型使用。

FS-R4A1 based on ANT protocol is a three-in-one receiver with ESC and LED light group control board. It has an external single antenna, can output PWM signal and light control signal, can implement two-way transmission, adopts automatic binding, and has a compact design, which can be adapted to various model cars.

## 接收机概览 Overview



[1] CH1 通道接口	[6] 右转向灯接口	[11] 电源开关	[16] 贴纸	[21] 刹车灯接口
[2] CH3 通道接口	[7] 前灯接口	[12] 电池线正极	[17] LED 指示灯	[22] 尾灯接口
[3] CH4 通道接口	[8] 雾灯接口	[13] 电池线负极	[18] 左转向灯接口	[23] 通道信号端
[4] 左转向灯接口	[9] 雾灯接口	[14] 马达接口 "M+"	[19] 右转向灯接口	[24] 电源正极
[5] 前灯接口	[10] 天线	[15] 马达接口 "M-"	[20] 倒车灯接口	[25] 电源负极

[1] CH1	[10] Antenna	[19] Right turn signal light interface
[2] CH3	[11] Power switch	[20] Backup light interface
[3] CH4	[12] Battery line anode	[21] Stop light interface
[4] Left turn signal light interface	[13] Battery line cathode	[22] Tail light interface
[5] Headlight interface	[14] Motor interface "M+"	[23] Channel signal end
[6] Right turn signal light interface	[15] Motor interface "M-"	[24] Power anode
[7] Headlight interface	[16] Sticker	[25] Power cathode
[8] Fog light interface	[17] LED	
[9] Fog light interface	[18] Left turn signal light interface	

## 产品规格 Specifications

- 产品型号: FS-R4A1
- 适配遥控器: FS-MG41
- 适合机种: 车
- 通道个数: 4
- 车灯接口数: 7
- 无线频率: 2.4GHz ISM
- 无线协议: ANT (蚂蚁版自动调频数字系统)
- 天线类型: 单天线
- 输入电源: Lipo (2S) / NiMH (5-7Cell)
- BEC 输出: 6V/1A
- 持续 / 峰值电流: 10A/50A
- 数据输出: PWM
- 温度范围: -10°C ~ +60°C
- 湿度范围: 20%~95%
- 防水等级: PPX4
- 在线更新: 无
- 外形尺寸: 33mm\*30mm\*12mm (不含电容)
- 机身重量: 11g 左右
- 认证: CE, FCC ID: N4ZR4A10

- Product Name: FS-R4A1
- Adaptive transmitter: FS-MG41
- Model Type: Car
- Channels: 4
- Numbers of Light Interfaces: 7
- RF: 2.4GHz ISM
- 2.4G Protocol: ANT
- Antenna: Single antenna
- Input Power: Lipo (2S)/NiMH (5-7Cell)
- BEC Output: 6V/1A
- Continuous/Peak Current: 10A/50A
- Data Output: PWM
- Temperature Range: -10°C ~ +60°C
- Humidity Limit: 20%~95%
- Waterproof: PPX4
- Online Update: No
- Dimensions: 33mm\*30mm\*12mm (excluding capacitor)
- Weight: About 11g
- Certification: CE, FCC ID: N4ZR4A10

## 对码 Binding

本款接收机上电即自动进入对码状态。

按住遥控器的对码键并开机，即进入对码状态，此时 **G.LED** 快闪，松开 **"BIND"** 键。

1. 接收机上电等待 1 秒没有连接将自动进入对码；

2. 对码成功后，接收机 LED 指示灯常亮；

注：(1) 对码时请先将遥控器进入对码状态，再将接收机进入对码状态，若 10s 内对码没有完成，接收机指示灯进入慢闪状态；

(2) 如果重新对码成功，车灯的所有设置将恢复默认值。

The receiver automatically enters the binding state once it is powered on.

Press the **BIND** Key to turn on the transmitter and allow it to enter its binding state. Here, **G.LED** flashes quickly, and operator releases the **BIND** Key.

1. When the receiver is powered on and waits for 1 second, it will automatically enter the binding state if it is not connected;

2. After the binding is successful, the LED indicator of the receiver is always on.

**Notes:** (1) Set the transmitter to its binding state first, and then set the receiver to its binding state. If the binding is not completed within 10s, the indicator light of the receiver will enter its slow flashing state.

(2) If re-binding is successful, all the settings of the car lights will be restored to their default values.

## 电调保护功能 ESC protection

本款接收机具有上电自检显示、过热报警提示、电压过低 / 高报警提示等多种提示功能。

- 自检显示: 接收机上电瞬间所有车灯长亮 1S;
- 过热报警: 检测到电调内部温度超过 110°C 时，马达无输出，所有车灯快闪提示；当温度低于 70°C 时恢复正常输出。
- 电压过低 / 高报警: 接收机进入电压过低保护时，马达无输出，所有车灯慢闪提示；接收机进入电压过高保护时，所有通道无输出，所有车灯快闪提示。

This receiver has multiple prompt functions such as power-on self-check display, overheating alarm prompt, and low/high voltage alarm prompt.

- Self-check display: all car lights will be on for 1S when the receiver is powered on;
- Overheating alarm: When the internal temperature of the ESC is detected to exceed 110°C, motor has no output, all car lights flash promptly, and the normal output will be restored when the temperature is lower than 70°C;

## 电调保护功能 ESC protection

- Low/high voltage alarm: When the receiver enters the low voltage protection, motor has no output, and all the lights flash slowly; when the receiver enters the high voltage protection, all channels have no output. All car lights flash promptly.

## 车灯控制 Car light control

车灯控制主要是通过发射机的设置实现车灯亮状态及亮灯模式的转换。

此款接收机对模型车车灯的控制预设了五种模式，各模式下模型车的倒车灯亮灭状态一致，即当模型车倒车时，倒车灯为高亮状态，反之为常灭状态。而转向灯、前灯、刹车灯、尾灯和雾灯的亮灭状态各异，具体如下所述：

- 默认模式：**此模式下，无论模型车是否转弯，转向灯状态为常灭状态；当刹车时，刹车灯为高亮状态，反之为常灭状态；前灯、尾灯和雾灯为常灭状态。
- 模式 A：**此模式下，当模型车转弯时，转向灯为慢闪状态；当刹车时，刹车灯为高亮状态，非刹车时为低亮状态；前灯为低亮状态；尾灯和雾灯为常灭状态。
- 模式 B：**此模式下，当模型车转弯时，转向灯为慢闪状态；当刹车时，刹车灯为高亮状态，非刹车时为低亮状态；前灯为高亮状态；尾灯和雾灯为常灭状态。
- 模式 C：**此模式下，无论模型车是否转弯，转向灯为持续慢闪状态；当刹车时，刹车灯为高亮状态，非刹车时为低亮状态；前灯为高亮状态；尾灯和雾灯为常亮状态。
- 模式 D：**此模式下，当模型车转弯时，转向灯为慢闪状态；刹车时，刹车灯为高亮状态，非刹车时为常灭状态；前灯为常灭状态；尾灯和雾灯为常亮状态。

- 注：(1) 按遥控器上的 **CH4** 按键切换工作模式，每按一次，切换一个模式（默认模式、模式 A、模式 B、模式 C 和模式 D 依次切换）；
- (2) 每次开机时，车灯控制模式为默认模式；
- (3) 模式 C 为应急灯工作状态，左右转向灯同时同步慢闪做应急灯。

The car light control is mainly to implement the changeover of lighting states and lighting modes by the setting of the transmitter.

This receiver is preset with five modes for controlling model car lights. In each mode, the on/off states of backup lights are consistent; in other words, the backup light is in a high-light state when the model car backs up; otherwise, it is in off state. The turn signal light, headlight, stop light, tail light and fog light have different on/off states as follows:

- Default mode:** In this mode, the turn signal light is in off state regardless of whether the model car turns or not; When braking, the stop light is in a high-light state, and otherwise, it is in off state; The headlight, tail light and fog light are in off state.
- Mode A:** In this mode, the turn signal light is in a slow flashing state when the model car turns; When braking, the stop light is in a high-light state, and when not braking, it is in a low-light state; The headlight is in a low-light state; The tail light and fog light are in off state.
- Mode B:** In this mode, the turn signal light is in a slow flashing state when the model car turns; When braking, the stop light is in a high-light state, and when not braking, it is in a low-light state; The headlight is in a high-light state; The tail light and fog light are in off state.
- Mode C:** In this mode, the turn signal light is in a continuously slow flashing state regardless of whether the model car turns or not; When braking, the stop light is in a high-light state, and when not braking, it is in a low-light state; The headlight is in a high-light state; The tail light and fog light are in on state.
- Mode D:** In this mode, the turn signal light is in a slow flashing state when the model car turns; When braking, the stop light is in a high-light state, and when not braking, it is in off state; The headlight is in off state; The tail light and fog light are in on state.

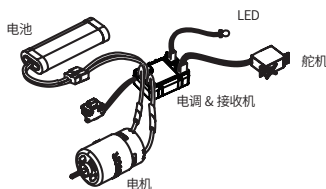
Notes:

- Press the **CH4** button on the transmitter to switch the working mode, one mode per press (Default Mode, Mode A, Mode B, Mode C and Mode D are switched in turn);
- Every time the receiver is turned on, the car light control mode is in Default Mode;
- Mode C is an emergency light working state. In this mode, the left and right turn signal lights flash synchronously and slowly as emergency lights.

## 电调功能使用说明 ESC function instructions

### 1. 连接相关设备：

- 连接前请确认电调开关处于关闭（OFF）状态，将电机与电调的 M+/M- 相连接，舵机接到电调 3Pin 排针接口上（“-”“+”“S”相对应），电池与电调输入正负极对应相接。



## 电调功能使用说明 ESC function instructions

### 2. 正常开机，识别油门中点：

- 上面第一步相关设备连接好后，先打开遥控器，并将遥控器油门扳机置于中点位置（自然状态）。最后一步打开电调开关，接收机重新上电自动识别电池类型后方可运行。

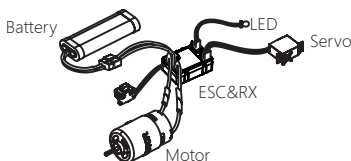
注意：

- 电调开机后必须等到自检完成后方可运行（大约 3 秒），否则可能无法正常动作；
- 若开机后无动力输出，请查看遥控器油门微调是否置于“0”位置，接收机重启可自动识别微调油门中点；
- 若运行时发现电机转向不对，将电调接电机的两根线互换位置即可；
- 为了一切正常，请养成先打开遥控器最后打开电调开关以及先关闭电调开关最后关闭遥控器的习惯。

注：关于电调的电池类型、拖刹力度和运行模式的设置详见相关配套遥控器说明书相关章节。

### 1. Connect related equipment:

- Make sure the ESC is off before connection. Connect the motor with M+ and M- of ESC. Connect the steering servo to the 3Pin interface marked with "ST" of ESC (- + S connected correspondingly). Connect the battery with the positive and negative poles of ESC correspondingly.



### 2. Normal boot, identification throttle midpoint:

- After connecting related equipment as step 1, turn on the radio first, move the throttle trigger to the neutral position. Turn on the switch of ESC at last. The receiver will automatically recognize the battery type when it is powered on again. Then it can run it.

Notes:

- The ESC can be run after completing self-inspection (about 3 seconds) if power on, otherwise it cannot be operated normally.
- If there is no power output and the red light of ESC flashes quickly after power on, please check whether the throttle trim of the transmitter is set to the "0" position, the receiver will automatically recognize the midpoint of the trim throttle after restarting;
- If the rotation direction is not correct during running, exchange the two wires connecting motor and ESC.
- To make sure everything is ok, please turn on the transmitter first and finally turn on the ESC, turn off the ESC first and finally turn off the transmitter.

**Note:** Please refer to the relevant sections for details about the battery type, drag brake force and running mode of the ESC.

## 失控保护 Failsafe

此功能用于当接收机无法正常收到遥控器的信号不受控制时，保护模型和操作人员的安全。该接收机默认为油门通道固定为失控进入刹车状态，其他通道失控后接收机无信号输出，如若在遥控器上进行设置，则按照设置值输出。

This function is used to protect the safety of the model and the operator when the receiver cannot normally receive the signal from the transmitter and is out of control. The receiver defaults that the throttle channel is fixed to be out of control and enters the brake state. After other channels are out of control, the receiver has no signal output. If you set it on the transmitter, it will output according to the set value.

### 注意事项：

- 使用前必须确保本产品与模型安装正确，否则可能导致模型发生严重损坏。
- 请查看各动力设备以及车架说明书，确保动力搭配合理，避免因错误的搭配导致动力系统损坏。
- 勿使系统的外部温度超过 90°C / 194 °F，高温将会毁坏动力系统。
- 关闭时，请务必先关闭接收机电源，然后关闭遥控器。如果关闭遥控器电源时接收机仍然在工作，将有可能导致遥控设备失控或者引擎继续工作而引发事故。
- 使用完毕后，若长时间不玩车，切记断开电池与电调的连接。对电池未断开，即使电调开关处于关闭状态，电调也会一直消耗电能（只是非常小），长时间连接电池最终会被过放，进而导致电池或电调出现故障。我们不对因此而造成的任何损害负责！
- 确保接收机安装在远离电机或电子噪声过多的区域。
- 接收机天线需远离导电材料，例如金属棒和碳物质。为了避免影响正常工作，请确保接收机天线和导电材料之间至少有 1 厘米以上的距离。
- 准备过程中，请勿连接接收机电源，避免造成不必要的损失。

### Attention:

- Make sure the product is installed and calibrated correctly, failure to do so may result in serious injury.
- Please carefully check each power device and car frame instructions to ensure the power matching is reasonable before use. Avoid damaging power system due to incorrect matching.
- Do not let the external temperature of the system exceed 90°C / 194 °F, because high temperature will damage the power system.
- Make sure the receiver's battery is disconnected before turning off the transmitter, failure to do so may lead to unintended operation or loss of control.
- After use, remember to disconnect the battery and the ESC. If the battery isn't disconnected, the ESC will consume electric energy all the time even if it is off. It will discharge completely if connect the battery for a long time, thus resulting in the failure of the battery or the ESC. We are not responsible for any damage caused by this!
- Make sure the receiver is mounted away from motors or any device that emits excessive electrical noise.
- Keep the antenna of the receiver at least 1cm away from conductive materials such as carbon or metal.
- Do not power on the receiver during the setup process to prevent loss of control.

## 认证相关 Certification

### FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

### EU DoC Declaration

Hereby, [Flysky Technology co., Ltd] declares that the Radio Equipment [FS-R4A1] is in compliance with RED 2014/53/EU.

The full text of the EU DoC is available at the following internet address: [www.flysky-cn.com](http://www.flysky-cn.com).

### RF Exposure Compliance

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### Environmentally friendly disposal

Old electrical appliances must not be disposed of together with the residual waste, but have to be disposed of separately. The disposal at the communal collecting point via private persons is for free. The owner of old appliances is responsible to bring the appliances to these collecting points or to similar collection points. With this little personal effort, you contribute to recycle valuable raw materials and the treatment of toxic substances.



FCC ID: N4ZR4A10