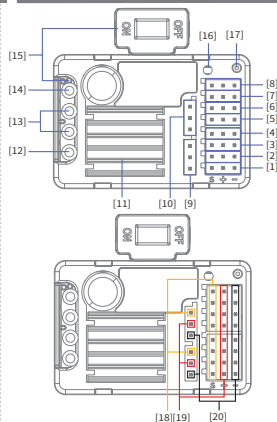


## 产品介绍 Introduction

FS-R11D-ESC-BS 采用 2A-BS 协议，是一款电调和 LED 灯组控制的二合一 11 通道接收机。它具有外置单天线，可输出 PWM 信号和车灯控制信号，能够实现双向传输，通电自动对码，可在发射机端设置电调的相关参数，可适配多种车型使用。

FS-R11D-ESC-BS, in compliance with 2A-BS protocol, is a 2-in-1 CH11 receiver combining the Electronic Speed Control (ESC) and LED light set control board. It is equipped with a single external antenna, with the output of PWM signals and car light control signals. It can realize two-way transmission, with binding automatically upon power-up. Users can set ESC parameters at the transmitter side. FS-R11D-ESC-BS can be adapted to a variety of car models.

## 接收机概览 Receiver Overview



[1] CH1 通道接口	[6] CH7 通道接口	[11] 散热片	[16] LED 指示灯
[2] CH3 通道接口	[7] CH8 通道接口	[12] 马达接口 "-"	[17] 天线
[3] CH4 通道接口	[8] CH9 通道接口	[13] 电池接口	[18] S (通道 / 车灯接口信号端)
[4] LED 车灯接口	[9] CH10 通道接口	[14] 马达接口 "+"	[19] "+" (通道 / 车灯接口正极)
[5] CH6 通道接口	[10] CH11 通道接口	[15] 电源开关	[20] "-" (通道 / 车灯接口负极)

[1] CH1 Interface	[6] CH7	[11] Heatsink	[16] LED
[2] CH3 Interface	[7] CH8	[12] Motor Interface "-"	[17] Antenna
[3] CH4 Interface	[8] CH9	[13] Battery Interface	[18] S (CH/Car Light Interface Signal Pin)
[4] LED Car Light Interface	[9] CH10	[14] Motor Interface "+"	[19] "+" (CH/Car Light Interface Anode)
[5] CH6 Interface	[10] CH11	[15] Power Switch	[20] "-" (CH/Car Light Interface Cathode)

注:

- 所有通道接口均采用标准 2.54mm\*3 Pin 排针；电池接口采用 XT60 公头接口；马达接口采用 4.0 mm 子弹头母型接口。
- LED 车灯接口用于连接 FS-DB01 车灯驱动板。

Notes:

- All channel interfaces are 2.54mm\*3 Pin standard pins, and the battery interface is XT60 male interface, and the spec of motor interface is a 4.0 mm bullet female connector.
- The LED car light interface is used to connect FS-DB01 car light drive board.

## 产品规格 Product Specifications

- 产品型号: FS-R11D-ESC-BS
  - 适配发射机: FS-MG11-BS
  - 适配模型: 1/8 攀爬车、平路、越野短卡和卡车
  - 通道个数: 11
  - 车灯组数: 6 (LED 车灯接口连接 FS-DB01 车灯驱动板)
  - 无线频率: 2.4GHz ISM
  - 发射功率: < 20dBm
  - 无线协议: 2A-BS
  - 天线类型: 外置单天线 (同轴天线)
  - 输入电源: LiPo (2~3S) / NiMH(5~9Cell)
  - BEC 输出: 6V/5A
  - 持续 / 峰值电流: 60A/240A
  - 支持电机类型: 有刷电机
  - 适配电机: 370、390、540 或 550 有刷电机
  - 数据输出: PWM
  - 通道分辨率: 4096
  - 温度范围: -10°C ~ +60°C
  - 湿度范围: 20% ~ 95%
  - 遥控距离: >150 米 (空旷无干扰地面距离)
  - 防水等级: PPX7
  - 在线更新: 无
  - 外形尺寸: 44.0mm\*30.0mm\*16.7mm
  - 机身重量: 45g
  - 认证: CE, FCC ID: 2A2UNR11D00
- Product Name: FS-R11D-ESC-BS
  - Adaptive Transmitters: FS-MG11-BS
  - Adaptive Models: 1/8 crawler, on-road car, off-road short course truck, and truck
  - Number of Channels: 11
  - Number of Car Light Interfaces: 6 (LED car light interface connects to FS-DB01)
  - RF: 2.4GHz ISM
  - Maximum Power: < 20dBm (e.i.r.p.) (EU)
  - 2.4G Protocol: 2A-BS
  - Antenna: Single External Antenna (Coaxial Antenna)
  - Input Power: LiPo (2~3S)/NiMH(5~9Cell)
  - BEC Output: 6V/5A
  - Continuous / Peak Current: 60A/240A
  - Motor Type: Brushed Motor
  - Applicable Motors: 390, 370, 540 or 550 Brushed Motor
  - Data Output: PWM
  - Resolution: 4096
  - Temperature Range: -10°C ~ +60°C
  - Humidity Range: 20% ~ 95%
  - Distance: >150m (Ground Distance without Interference)
  - WaterProof: PPX7
  - Online Update: None
  - Dimensions: 44mm\*30mm\*16.7mm
  - Weight: 45g
  - Certifications: CE, FCC ID: 2A2UNR11D00

## 对码 Binding

本款接收机上电即自动进入对码状态。

- 将发射机进入对码状态 (发射机进入对码状态的方式可能不同, 请根据发射机的使用说明书进行操作) ;
- 接收机上电等待 1 秒没有连接将自动进入对码;
- 对码成功后, 接收机 LED 指示灯常亮;
- 检查发射机、接收机是否正常工作。如需重新对码, 请重复以上步骤。

注:

- 对码时请先将发射机进入对码状态, 再将接收机进入

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

- First put the transmitter into the binding mode. (See the transmitter's user manual for instructions on how to activate binding mode.)
- Turn on the receiver, and it will wait for 1 second for connection. If without connection, the receiver will enter the binding mode automatically.
- After the binding is successful, the receiver LED is solid on.
- Verify that the transmitter and receiver are working properly. If you need to re-bind, repeat the above steps.

Notes:

- Set the transmitter to its binding state first, and then set the receiver to

## 对码 Binding

- 对码状态，若 10 秒内对码没有完成，接收机指示灯进入慢闪状态
2. FS-R11D-ESC-BS 接收机采用 2A-BS 协议，只兼容该协议的发射机。

its binding state. If the binding is not finished within 10 seconds, the receiver LED will enter its slow flashing state.

2. The FS-R11D-BS receiver complies with the 2A-BS protocol and is only compatible with transmitters conforming to this protocol.

## 保护功能 Protection

本接收机具有电池电压过低和过高保护功能。

- 电压过低保护：当检测到电池电压过低时，CH2 通道无输出，所有车灯慢闪提示。
- 电压过高保护：当电池电压过高时，所有通道无输出，所有车灯快闪提示。

本接收机电调具有过热保护功能。

- 过热保护：当检测到电调内部温度过高时，CH2 通道无输出，所有车灯快闪提示；当温度正常后，通道恢复输出。

This receiver has low/high voltage protection function.

- Low Voltage Protection: When the voltage is detected to be low, CH2 has no output and all the car lights flash slowly.
- High Voltage Protection: When the voltage is detected to be high, all channels will not output. All the car lights flash fast.

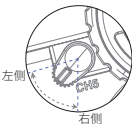
The ESC has overheating protection function.

- Overheating Protection: When the internal temperature of the ESC is detected to be too high, CH2 has no output and all the car lights flash fast. When the temperature is normal, the channel resumes output.

## 车灯控制 Car Light Control

本接收机支持 6 组车灯：左转灯、右转灯、日行灯、前大灯、刹车灯和倒车灯（此 6 组车灯通过 FS-DB01 车灯驱动板与本接收机建立连接）。

车灯状态由 FS-MG11-BS 发射机的相应控件控制。左、右转向灯亮灭状态由手轮控制；日行灯和前大灯亮灭状态由 CH5 旋钮控制；刹车灯和倒车灯亮灭状态由扳机控制。具体如下所述：

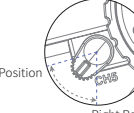
车灯	车灯状态	控制状态	控件	触发条件	备注	
左转灯	慢闪	左转	手轮	逆时针打手轮	方向通道设置反向后对左、右转向灯无影响。	
右转灯	慢闪	右转	手轮	顺时针打手轮		
日行灯	常灭	/	CH5 旋钮	CH5 旋钮位于左侧		
	常亮			CH5 旋钮位于中间		
	常亮			CH5 旋钮位于右侧		
前大灯	常灭	/	CH5 旋钮	触发条件同日行灯		
	常亮					
刹车灯	常亮	刹车	扳机	前推扳机	当电调运行模式设置为正转 / 反转模式时（无刹车），前推扳机刹车灯不亮。	
倒车灯	常亮	倒车	扳机	前推扳机	/	

注：

- 接收机开机后，所有车灯常亮一秒后灭；
- 方向通道 CH1 和油门通道 CH2 具有自动识别中位的功能，当调过微调后，需重新给接收机上电以完成中位自动识别。

This receiver features 6 sets of lights: left turn signal light, right turn signal light, daytime running light, headlight, brake light and reverse light. And these 6 sets of lights are connected to this receiver through the FS-DB01 car light driver board.

The state of all the car lights is controlled by the corresponding controls of the FS-MG11-BS transmitter. The left and right turn signal lights are controlled by steering wheel. The daytime running lights and headlights are controlled by CH5 knob. The brake and reverse lights are controlled by throttle trigger. Details are as follows:

Car Lights	Car Light State	Control State	Control	Trigger Condition	Notes	
Left Turn Signal Light	Slow Flash	Turn Left	Steering Wheel	Turn the steering wheel counterclockwise.	If you set the steering channel in reverse, the trigger condition for left and right turn signal lights will not be affected.	
Right Turn Signal Light	Slow Flash	Turn Right	Steering Wheel	Turn the steering wheel clockwise.		
Daytime Running Light	OFF	/	CH5 Knob	CH5 Knob is located at the left position.		
	Solid ON			CH5 Knob is located in the middle position.		
	Solid ON			CH5 Knob is located at the right position.		
Headlight	OFF	/	CH5 Knob	Same as the DRL above		
	OFF					
	Solid ON					
Brake Light	Solid ON	Brake	Tigger	Push the throttle trigger forward.	When the running mode of ESC is set to Forward/Reverse mode (no brake), the Brake Light will not on when pushing the throttle trigger forward.	
Reverse Light	Solid ON	Back up	Trigger	Push the throttle trigger forward.	/	

## 车灯控制 Car Light Control

Notes:

1. After the receiver is turned on, all the lights will be on for one second and then go out.
2. The steering CH1 channel and throttle CH2 channel are capable of automatic neutral identifying, after the trim is adjusted, the receiver should be powered to recognize the neutral positions of these two channels automatically.

## 电调功能说明 ESC Function Instruction

本接收机电调功能支持在发射机端设置电池类型设置、拖刹力度设置和运行模式（正转 / 反转、正转 / 反转 / 刹车）的设置，详见 FS-MG11-BS 发射机说明书相关章节。

马达连接后，接收机每次开机即自动识别油门中位位置。

- 当连接的电池类型为锂电时，如使用 2S 锂电，则马达快响两声（3 声代表 3S 锂电）提示；
  - 当油门中位识别通过后，马达长响一声提示。
- 若未识别油门中位，马达持续快响提示，此时马达无动力输出。

注：

1. 电调功能必须等到开机自检完成后方可运行（大约 3 秒），否则可能无法正常动作；
2. 若运行时发现电机转向不对，则可在发射机端将油门通道反向设置即可；
3. 为了一切正常，请养成先开发射机再接收机通电以及先接收机断电再关闭发射机的习惯。

This receiver ESC function supports the settings of battery type, drag brake and running mode (forward/reverse, forward/reverse/brake) at the transmitter side. See the FS-MG11-BS transmitter manual for details.

After the motor is connected, the receiver automatically recognizes the throttle neutral every time it is powered on.

- When the connected battery type is lithium-ion, such as 2S LiPo, the motor fast beeps twice (3 beeps represent 3S LiPo).
- When the throttle neutral is recognized, the motor will long-beep once. If throttle neutral is not recognized, the motor will continue to beep quickly. There is no power output from the motor at this time.

Notes:

1. The ESC function is available for running until the self-inspection is completed (it takes about 3 seconds). Otherwise, it may not be able to operate normally.
2. If you find that the motor steering is not correct during operation, you can set the throttle channel in reverse at the transmitter side.
3. Normally, you must power on the transmitter and then receiver, and power off the receiver and then transmitter.

## 失控保护 Failsafe

此功能用于当接收机无法正常收到发射机的信号不受控制时，保护模型和操作人员的安全。

- 接收机 CH2 通道（电调），失控后进入刹车模式，其他通道可在发射机端进行相关设置，默认未设置，默认未设置时接收机通道保持最后输出；
- 失控后，若 LED 车灯接口连接了 FS-DB01 灯板，且连接了左转向灯和右转向灯，则左、右车灯同步慢闪提示。

The failsafe function is used to protect the model and personnel when the receiver is out-of-control.

- The CH2 (ESC) enters the braking state in case of out-of-control, for the other channel, the failsafe can be set at the transmitter side. By default, it is not set, and the receiver will maintain the last output at the time.
- If the FS-DB01 car light drive board is connected to the LED car light interface, and the left and right turn signal lights are also connected, when the receiver is out-of-control, then the left and right turn signal lights flash fast for prompt.

## ⚠ 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，高温将会损坏动力系统。
- 关闭时，请务必先关闭接收机电源，然后关闭发射机。如果关闭发射机电源时接收机仍然在工作，将导致遥控设备失控。失控保护设置不合理可能引起事故。
- 使用完毕后，若长时间不玩车，切记断开电池与电调的连接。如电池未断开，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。
- 若在发射机端调整油门通道微调后，接收机须重新通电以识别新的油门通道中位，否则可能会出现倒车异常的现象。

## ⚠ 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 can result out of control. Unreasonable setting of the Failsafe may cause accidents.
- 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 receiver's antenna 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.
- If the throttle trim is changed on the transmitter side, the receiver needs to be re-powered to recognize the new throttle neutral. Otherwise, an exception may occur during vehicle reversing.

## 认证相关 Certifications

## 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-R11D-ESC-BS] is in compliance with RED 2014/53/EU. The full text of the EU DoC is available at the following internet address: [www.flyskytch.com/info\\_detail/10.html](http://www.flyskytch.com/info_detail/10.html)

## RF Exposure Compliance

The distance between user and products should be no less than 20cm.

## 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: 2A2UNR11D00



微信公众号



Bilibili



Website



Facebook

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Figures and illustrations in this manual are provided for reference only and may differ from actual product appearance. Product design and specifications may be changed without notice.

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