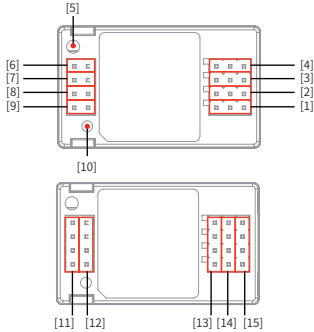# FLYSKY　FS-R4D-BS

接收机　Receiver

产品介绍 Introduction

FS-R4D-BS 是一款 AFHDS 2A-BS 协议的单向接收机，外置单天线，可输出 PWM 信号和 LED 灯控制信号，能实现自动对码，设计小巧轻薄，可适配多种车型使用。

FS-R4D-BS is an AFHDS 2A-BS protocol unidirectional receiver with an external single antenna. It can output PWM signals and LED lamp control signals and implement automatic binding. Its compact and light design makes it suitable for many car models.

接收机概览 Receiver overview

[1] CH1
[2] CH2
[3] CH3
[4] CH4
[5] 天线

[6] 左车灯接口
[7] 右车灯接口
[8] 前车灯接口
[9] 后车灯接口
[10] LED

[11] 车灯接口电源正极 (+)
[12] 车灯接口 电源负极 (-)
[13] S（信号脚）
[14] 通道接口电源正极 （+）
[15] 通道接口电源地（-）

[5] Antenna
[6] Left light interface
[7] Right light interface
[8] Headlight interface
[9] Rear light interface

[11] Car light interface power anode(+)
[12] Car light interface power cathode(-)
[13] S (Signal Pin）
[14] Channel interface power anode （+）
[15] Channel interface power cathode （-)

产品规格 Product specification

- 产品型号：FS-R4D-BS
- 适配发射机：FS-G4P-BS
- 适合机种：车
- PWM 通道：4
- 车灯接口数：4
- 无线频率：2.4GHz ISM
- 无线协议：AFHDS 2A-BS
- 天线类型：单天线
- 输入电源：3.5 ～ 8.4V
- 工作电流：65mA/5V
- 数据输出：PWM
- 通道分辨率：4096
- 温度范围：-10℃ ~ +60℃
- 湿度范围：20% ~ 95%
- 防水等级：PPX4
- 在线更新：无
- 外形尺寸：34mm*18.4mm*11.5mm
- 机身重量：3.4g
- 认证：CE，FCC

- Product Model: FS-R4D-BS
- Adaptive transmitter: FS-G4P-BS
- Model Type: Cars
- PWM Channels: 4
- Number of car light interfaces：4
- RF: 2.4GHz ISM
- 2.4G Protocol: AFHDS 2A-BS
- Antenna: Single Antenna
- Input Power: 3.5-8.4V
- Working Current: 65mA/5V
- Data Output: PWM
- Resolution: 4096
- Temperature Range: -10℃ ~ +60℃
- Humidity Limit: 20%～95%
- WaterProof: PPX4
- Online Update: No
- Dimensions: 34mm*18.4mm*11.5mm
- Weight: 3.4g
- Certification: CE，FCC

对码 Binding

本款接收机上电即自动进入对码状态。
- 开启发射机，将发射机进入对码状态；
- 接收机上电，指示灯慢闪完成对码；
- 重启发射机，接收机指示灯常亮即可进入正常通信。
- 检查发射机、接收机、模型是否正常工作，如需重新对码，请重复以上步骤重新对码。

注：
1. 接收机在未正常通信下，会自动进入对码状态，若接收机已与发射机完成对码，请发射机先于接收机开机，避免接收机自动进入对码状态，造成使用不便。
2. 若已完成对码的发射机未先于接收机开机或接收机未对码，接收机在上电后，将自动进入对码状态，接收机指示灯快闪。若 10s 内，接收机和发射机未完成对码，接收机自动退出对码状态，指示灯慢闪，等待已完成对码发射机开机进入正常通信状态；若 10s 内，接收机和发射机完成对码，接收机指示灯慢闪，重启发射机，接收机指示灯常亮，表示对码成功。The receiver will automatically enter the The

The receiver will automatically enter the binding state when it is powered on.
- Turn on the transmitter and allow it to enter the binding state;
- Power on the receiver. The indicator light flashes slowly, indicating the completion of binding;
- Restart the transmitter. The indicator light of the receiver is constantly on, indicating that normal communication can start.

对码 Binding

- Check to make sure the transmitter and receiver functions are working correctly, repeat steps above if any problems arise.

Notes：
1. The receiver will automatically enter the binding state under abnormal communication. If the receiver and transmitter have completed binding, please start the transmitter before the receiver is started, thus avoiding the inconvenience caused by the receiver's automatic entry into the binding state.
2. If a transmitter that has finished binding is not turned on before the receiver or the receiver is not bound, the receiver will automatically enter the binding state after being powered on, and the indicator light of the receiver will flash quickly.If the receiver and transmitter fail to complete binding within 10s, the receiver will automatically exit the binding state, and the indicator light will flash slowly, waiting for the transmitter which has completed the binding to start up and enter the normal communication state; if the receiver and transmitter complete binding within 10s, the indicator light of the receiver flashes slowly, the transmitter is restarted, and the indicator light of the receiver is constantly on, indicating successful binding.

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灯状态及亮灯模式的转换。

- 恢复默认设置，步骤如下：

接收机再次对码成功后，车灯相关设置恢复默认设置。

- 前进 / 后退切换（默认扣扳机时，前灯亮。切换后，即前推扳机时，前灯亮，扣扳机时，后灯亮），步骤如下：
1. 发射机与接收机对码成功后，接收机断电；
2. 发射机手轮向左旋转至最大，同时板机正常回中；
3. 接收机上电。

- 车灯控制模式切换（默认四通道控制，可切换为两通道控制），步骤如下：
1. 发射机与接收机对码成功后，接收机断电；
2. 发射机手轮向右旋转至最大，同时板机正常回中；
3. 接收机上电。

- 车灯模式切换（默认正常模式，可切换为运动模式、呼吸模式或爆闪模式）步骤如下：
1. 发射机与接收机正常通信；
2. 快速按下 CH4 按键两次，即切换车灯模式。

- 车灯模式与车灯亮灭如下图所述。

车灯模式	状态	车灯名称	工作方式	触发条件	备注
正常模式（默认）	左转向	左车灯	慢闪	手轮向左打	应急灯开启后转向灯无效
	右转向	右车灯	慢闪	手轮向右打	
	应急	左车灯右车灯	同时慢闪	两通道控制：1 秒内手轮快速由中位沿顺时针方向打两次 四通道控制：按下 CH4 按键	关闭应急：操作同触发
	照明 / 示宽	前车灯后车灯	前灯常亮后灯低亮	两通道控制：1 秒内手轮快速由中位沿逆时针方向打两次 四通道控制：CH3 开关最左拔向中间	关闭照明 / 示宽：操作同触发
	后退 / 刹车	后车灯	常亮	前推油门扳机	切换前进 / 后退后则扣扳机
运动模式	左转向	同正常模式	同正常模式	同正常模式	同正常模式
	右转向				
	应急				
	前进	前车灯	常亮	扣油门扳机	前进 / 后退切换后则前推扳机
	后退 / 刹车	后车灯	常亮	同正常模式	同正常模式
呼吸模式	左转向	同正常模式	同正常模式	同正常模式	同正常模式
	右转向				
	应急				
	呼吸	前车灯后车灯	亮暗交替	同照明 / 示宽	关闭呼吸：操作同触发
爆闪模式	左转向	同正常模式	同正常模式	同正常模式	同正常模式
	右转向				
	应急				
	爆闪	前车灯后车灯	同时快闪	同照明 / 示宽	关闭爆闪：操作同触发

注：
1. 以上 CH3、CH4 均为发射机的通道，其中 CH4 通道主要控制应急灯的闪烁情况；

车灯控制 Car light control

2. 以上操作是通道均在未开启方向反置开关下的操作，如若开启方向反向开关，则之前的发射机操作方式需进行相反方向的操作调整。

3. 方向 CH1 和油门 CH2 可自动识别中位，即上电时检测到 CH1、CH2 的通道值在中位附近时，则将自动检测到的通道值当做控制车灯的中位值。

Car lights are controlled by setting the transmitter, including light on/off and light mode switching.

- To restore the default settings, proceed as follows:

  After the receiver succeeds in binding again, the settings related to car lights will be restored to the default settings.

- For Forward/Backward switching (By default, the Headlight is on when the trigger is pulled. After switching, that is, when pushing the trigger forward, the Headlight is on; when pulling the trigger, the rear light is on), the steps are as follows:

  1. After the transmitter binds with the receiver successfully, power off the receiver.
  2. Rotate the transmitter's steering wheel to the left to the maximum. At the same time, the trigger performs the self-centering normally.
  3. Power on the receiver.

- Switching of car light control modes (By default, it is the four-channel control. You can change to the two-channel control). The steps are as follows:

  1. After the transmitter binds with the receiver successfully, power off the receiver.
  2. Rotate the transmitter's steering wheel to the right to the maximum. At the same time, the trigger performs the self-centering normally.
  3. Power on the receiver.

- Car light mode switching (By default, it is in normal mode. You can change to sports mode, breathing mode or flashing mode). The steps are as follows:

  1. Make the transmitter to communicate with the receiver normally.
  2. Quickly press CH4 button twice, that is, to switch the car light mode.

- The following table describes the light mode and on/off state.

Mode	State	Light	Working mode	Trigger condition	Remarks
Normal mode (By default)	Left turn	Left light	Slow flash	Steering wheel to the left	After the emergency lights are on, the steering lights are invalid.
	Right turn	Right light	Slow flash	Steering wheel to the right	
	Emergency	Left light Right light	Slow flashing at the same time	Two-channel control: Turn the steering wheel quickly twice clockwise from the neutral position within 1S；Four-channel control: press CH4 button.	Turn off the emergency: The operations are the same as those in the triggering.
	Lighting / Clearance light	Left light Right light	Headlight solid on, Rear light dimly shed.	Two-channel control: Turn the steering wheel quickly twice counterclockwise from the neutral position within 1S；Four-channel control: Switch CH3 from the far left to the middle.	Turn off the Lighting / Clearance light: The operations are the same as those in the triggering.
	Reverse/Back up	Rear light	Solid on	Push the trigger forward.	After switching Forward/Backword, then pull the trigger back.
Sports mode	Left turn	Same as those in Normal mode	Same as those in Normal mode	The trigger conditions are the same as those in Normal mode.	The remarks are the same as those in Normal mode.
	Right turn				
	Emergency				
	Drive	Headlight	Solid on	Pull the trigger backward.	After switching Forward/Backword, then push the trigger forward.
	Reverse/Back up	Rear light	Solid on	Same as those in Normal mode.	Same as in Normal mode
Breathing mode	Left turn	Same as those in Normal mode	Same as those in Normal mode	The trigger conditions are the same as those in Normal mode.	The remarks are the same as those in Normal mode.
	Right turn				
	Emergency				
	Gradual light	Headlight Rear light	Alternating lighting and dark	The trigger conditions are the same as Lighting/Clearance in Normal mode.	Turn off the Gradual light: Same as those in the triggering
Flashing mode	Left turn	Same as those in Normal mode	Same as those in Normal mode	The trigger conditions are the same as those in Normal mode.	The remarks are the same as those in Normal mode.
	Right turn				
	Emergency				
	Flashing	Headlight Rear light	Fast flashing at the same time	The trigger conditions are the same as Lighting/Clearance in Normal mode.	Turn off the Flashing light: Same as those in the triggering

Notes：

1. The CH3, and CH4 mentioned above are channels of the transmitter. Among them, CH4 mainly controls the flashing of the emergency lights.

2. All the above operations are performed when ST.REV or TH.REV switches are not turned on. If these switches are turned on, the previous transmitter operation mode needs to be adjusted for the opposite direction.

3. Steering CH1 and throttle CH2 can automatically identify the neutral position, that is, when the channel values of CH1 and CH2 are detected to be near the neutral position during power-on, the detected channel value will be regarded as the neutral value for controlling the car lights.

失控保护 Failsafe

用于当接收机无法正常收到发射机的信号时，保护模型和操作人员的安全。若发射机未设置失控保护通道值输出，接收机在进入失控保护状态后输出低电平；若发射机设置了失控保护，设置后各通道依照发射机设置的参数输出。具体操作详见发射机失控保护章节。

This function is used to protect the safety of the model and operators when the receiver cannot normally receive the signals from the transmitter. If Failsafe value output is not set, the receiver outputs low level after entering the fail-safe state; if Failsafe is set for the transmitter, after setting, each channel will output according to the values set at transmitter side.Please refer to the Failsafe section of the transmitter for details.

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。
- 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。
- 确保接收机安装在远离电机，电子调速器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.
- 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.
- Make sure the receiver is mounted away from motors, electronic speed controllers 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.

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-R4D-BS] 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.

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.

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