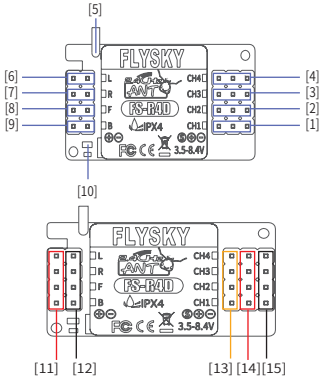
FLYSKY FS-R4D 接收机 Receiver

产品介绍 Introduction

FS-R4D 是 ANT 协议接收机，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 is an ANT protocol receiver with an external single antenna. It can output PWM signals and LED light 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 电源地 (-)
[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 Turn Signal Light Interface
[7] Right Turn Signal 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
- 适配发射机：FS-G4P
- 适配模型：车
- PWM 通道数：4
- 车灯接口数：4
- 无线频率：2.4G ISM
- 发射功率：<20dBm
- 无线协议：ANT（蚂蚁版自动调频数字系统）
- 天线类型：单天线
- 工作电压：3.5 ～ 8.4V / DC
- 数据输出：PWM
- 温度范围：-10°C ~+60°C
- 湿度范围：20%~95%
- 固件更新：不支持
- 外形尺寸：34mm*18.4mm*11.5mm
- 机身重量：3.4g
- 认证： CE，FCC

- Product Model: FS-R4D
- Adaptive Transmitters: FS-G4P
- Adaptive RC Models: Car
- Number of PWM Channels: 4
- Number of LED Lights：4
- RF: 2.4GHz ISM
- Maximum Power: <20dBm (e.i.r.p.)（EU）
- RF Protocol: ANT
- Antenna: Single Antenna
- Operating Voltage: 3.5 ~ 8.4V / DC
- Data Output: PWM
- Temperature Range: -10°C ~ +60°C
- Humidity Range: 20%~95%
- Firmware Update: Not Supported
- 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。

对码 Binding

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

Tips:

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 LED 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 LED Light Control

车灯控制主要是通过发射机的的设置实现车灯亮灯状态及亮灯模式的转换。

1. 车灯的四种闪烁状态：

- 慢闪：车灯呈现缓慢闪烁的状态；
- 爆闪：车灯呈现快速闪烁的状态；
- 呼吸灯：车灯呈现由暗变亮，然后又由亮变暗的闪烁状态；
- 低亮：车灯呈现亮度为常亮亮度的 50% 左右的闪烁状态。

2. 车灯工作的四种模式状态：

- 普通模式：打左转向，左转向灯慢闪；打右转向，右转向灯慢闪；CH3 最左，所有车灯熄灭，CH3 在中位或者最右，前灯常亮，后灯低亮；后退 / 刹车，后灯常亮，按下 CH4 按键，左灯右灯慢闪，再次按下 CH4 按键取消闪烁；
- 运动模式：打左转向，左转向灯慢闪；打右转向，右转向灯慢闪；油门加速，前灯常亮，油门刹车或后退，后灯常亮，按下 CH4 按键，左灯右灯慢闪，再次按下 CH4 按键取消闪烁。
- 呼吸模式：CH3 在中位或者最右，左灯、右灯、前灯和后灯一起呈呼吸灯闪烁状态；
- 爆闪模式：CH3 在中位或者最右，左灯、右灯、前灯和后灯一起呈快闪闪烁状态。

3. 车灯的模式切换：

- 接收机上电建立连接第一时间将发射机 CH1 顺时针转至最高位并保持，CH2 保持在中位状态，接收机每上电一次切换一个模式；
- 四种模式循环切换，断电后保存断电前的模式状态，默认模式为普通模式；
- 前进、后退 / 刹车受 CH2 通道值控制，控制方式可切换正反向；
- 正反向循环切换，掉电保存，默认为正向；
- 车灯模式及正反向设置，接收机对码操作成功后恢复默认状态。

注：

- 以上 CH1、CH2、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；
- 以上操作均为 CH1、CH2 未开启方向倒置开关下进行的操作，如若开启方向倒置开关，则之前的发射机操作方式需进行相反方向的操作调整。
- 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 light control: to switch among the lighting states and the lighting modes by setting of the transmitter.

1. Four flashing states of the car light:

- Slow flashing: the car lights are in a state of slow flashing;
- Sharp-flashing: The car lights are in a state of quick flashing;
- Breathing light: The flashing car light light becomes brighter and brighter and then darker and darker gradually;
- Low brightness: The brightness of the flashing car light light is about 50% of the constant brightness.

2. Four mode states of car lights:

- Normal mode: Turn left and the left turn signal flashes slowly; turn right and the right turn signal flashes slowly; when CH3 is in the leftmost position, all lights go out; when CH3 is in the neutral or rightmost position, the headlights are constantly on, and the rear lights are set to low brightness; during reversing/braking, the rear lights are constantly on; press CH4 button, the left and right lights flash slowly; press CH4 button again to cancel flashing;
- Sports mode: Turn left and the left turn signal flashes slowly; turn right and the right turn signal flashes slowly; during throttle acceleration, headlights are constantly on; during throttle braking or reversing, rear lights are constantly on; press CH4 button, left and right lights flash slowly; press CH4 button again to cancel flashing.

车灯控制 LED Light Control

- Breathing mode: CH3 is in the neutral or rightmost position, and the left light, right light, headlight and rear light are in breathing-light flashing state;
- Sharp-flashing mode: CH3 is in the neutral or rightmost position, and the left light, right light, headlight and rear light are flashing quickly together.

3. Switching of car light modes:

- Power on the receiver to establish a connection. Turn the transmitter CH1 clockwise to the highest position and keep it there, keep CH2 in the neutral position, and the receiver is switched to one mode every time it is powered on.
- The receiver is switched in four modes cyclically, the mode state before power-off is saved during power-off, and the default mode is the normal mode;
- Forward and backward driving/braking are controlled by the CH2 channel value, and the forward and backward directions can be switched in a control mode.
- Forward and backward directions are switched cyclically, and are saved in case of power failure. The default is forward direction;
- Car light mode and forward/backward direction setting are allowed. The default state is restored when the receiver finishes binding successfully.

Tips:

- CH1, CH2, CH3, and CH4 mentioned above are channels of the transmitter. Among them, CH4 mainly controls the flashing of the emergency lights;
- All the above operations are performed when the steering reversion switch for CH1/CH2 is not turned on. If the steering reversion switch is turned on, the previous transmitter operation mode needs to be adjusted for the opposite direction.
- 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 automatically detected channel value will be regarded as the neutral value for controlling the car lights.

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时，保护模型和操作人员的安全。若未设置失控保护，接收机在进入失控保护状态后无输出；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。具体操作详见各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 fail-safe is not set, the receiver will not output after entering the fail-safe state; if fail-safe is set for the transmitter, after setting, each channel will output according to the parameters preset for the transmitter. Refer to the fail-safe section of each transmitter for operation 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。
- 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。
- 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.
- Normally, you must power on the transmitter and then receiver, and power off the receiver and then the transmitter.
- 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, [ShenZhen FLYSKY Technology Co., Ltd.] declares that the Radio Equipment [FS-R4D] is in compliance with RED 2014/53/EU. The full text of the EU DoC is available at the following internet address: www.flyskytech.com/info_detail/10.html

RF Exposure Compliance

This equipment complies with FCC/ISED RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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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