# FGr4P 接收机 Receiver

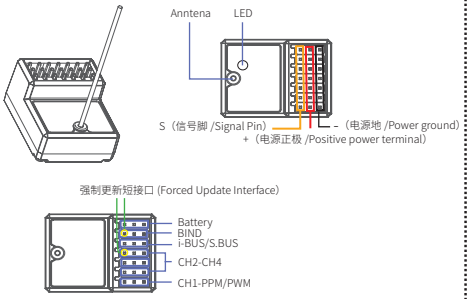
## 产品介绍 Introduction

FGr4P 采用 AFHDS 3（第三代自动跳频数字系统），外置单天线双向传输，它的设计小巧，便于安装。可输出标准 PWM、i-BUS、S.BUS 和 PPM 信号。

The FGr4P uses AFHDS 3 (Third Generation Automatic Frequency Hopping Digital System). It uses a single antenna, supporting two-way transmission. And it is designed to be compact and easy to install. It can output standard PWM, i-BUS,S.BUS and PPM signal.

## 接收机概览 Receiver Overview

**接收机接口示意图:**
**Receiver interface diagram:**




CH1- CH4：连接舵机、电源或其他各部件。

i-BUS/S.BUS：输出 i-BUS /S.BUS 信号 , 连接传感器和扩展模块。

BIND：连接对码线。

Battery： 连接电源。

CH1 - CH4: Connects the servos, power supply or other components.

i.BUS/S.BUS: Outputs i.BUS or S.BUS signal, and connects sensor and expansion module.

BIND: For binding cable.

Battery: Connects the battery.

## 产品规格 Product Specifications

- PWM 通道数：4
- 适配模型：车、船
- 数据输出：PWM/i-BUS/S.BUS/PPM
- 无线频率：2.4GHz ISM
- 发射功率：<20dBm
- RF 标准：AFHDS 3
- 天线类型：外置天线
- 工作电压：3.5V ～ 8.4V / DC
- 显示方式：LED 指示
- 固件更新：支持
- 外形尺寸：29*22*16.2mm
- 机身重量：8g
- 认证：CE，FCC ID: N4ZFGR4P00

- Number of PWM Channels: 4
- Compatible RC Models: Car/Boat
- Data Output: PWM/i-BUS/S.BUS/PPM
- RF: 2.4GHz ISM
- Maximum Power: <20dBm (e.i.rp.) (EU)
- RF Protocol: AFHDS 3
- Antenna: External Antenna
- Operating Voltage: 3.5V~ 8.4V / DC
- Display: LED Indicator
- Firmware Update: Supported
- Dimensions: 29*22*16.2mm
- Weight: 8g
- Certification: CE, FCC ID: N4ZFGR4P00

## 对码 Binding

1. 将对码线插入 BIND 接口；
2. 将电源线插入其他任意接口的正负极，接收机指示灯快闪表示进入对码状态；
3. 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）
4. 当接收机指示灯变为常亮时，将对码线和电源线从接收机上取下；
   - 如果发射机是单向，则接收机指示灯为慢闪状态。
5. 将电源线重新连接至接收机，接收机指示灯常亮表示对码成功；
6. 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。

1. Insert the bind cable into the receivers BIND port.
2. Plug the power cable into any other port, and the receiver's LED will start to flash quickly indicating that it has entered bind mode.
3. Put the transmitter into bind mode. (See the transmitter's instruction manual for more information)
4. Binding is successful when the receiver's LED is on continuously. unplug the power and bind cables from the receiver;
   - If the transmitter RF is set to one-way, then the receiver LED will flash slowly after the binding is finished.
5. Reconnect the power cable to the receiver.
6. Check to make sure that the transmitter and receiver are working as expected, if there are any issues or unexpected operation follow the steps above to bind again.

## 强制更新 Forced Update

发射机在更新完后，如无法与接收机对码，需强制更新接收机。

1. 用对码线短接 BIND 和其相隔的信号脚；（接收机概览部分已经标注）
2. 接收机上电进入更新状态（LED 灯三闪一灭），拔掉对码线，在发射机端选择强制更新。
3. 接收机 LED 灯由 3 闪 1 灭变为慢闪，更新完成。

After the transmitter is updated, if the code cannot be matched with the receiver, it is necessary to update the receiver.

1. Short circuit bind and its separated signal pins with bind cable;（It has been signed in the Receiver Overview part）
2. Power on the receiver to enter the update mode（LED light of the receiver works in three -flash-one-off mode）, unplug the bind cable, and select forced update at the transmitter.
3. The LED light of the receiver changes from three -flash-one-off mode to slow flash mode, the update is finished.

## 失控保护 Failsafe

失控保护功能用于在接收机失去信号不受控制后，接收机按设置好的失控保护值进行通道输出以保护模型及人员安全。

本款接收机支持各通道单独设置失控保护，共支持三种失控保护模式：[ 无输出 ]、[ 保持 ]、[ 固定值 ]。

[ 无输出 ]PWM 通道接口为无输出状态；

[ 保持 ] 输出失控前最后的通道值；

[ 固定值 ] 输出设置的通道值。

注：1. 对于 PPM/i-BUS/S.BUS/i-BUS2 等总线信号类型不允许单个或其中几个通道为 [ 无输出 ] 模式，通道设置为 [ 无输出 ] 模式时，实际信号是保持最后输出值；

2. 因 S.BUS/i-BUS2 信号信息包含失控标志位，各通道失控保护设置被失控标志位传达给后续设备，若连接的设备支持失控标志位解析，则失控后，输出各通道设置的失控保护值；

3. 对于无失控标志位的信号 PPM/i-BUS，支持设置失控时信号 [ 无输出 ] 模式。设置为 [ 无输出 ] 模式后，不管各通道失控保护如何设置，失控后各通道均为 [ 无输出 ] 模式。

The failsafe function is used to output the channel value according to the out-of-control protection value set by the user after the receiver loses its signal and is out of control to protect the model and personnel.

It can also be set failsafe for each channel respectively. This receiver supports three failsafe modes: [No output], [Hold], and [Fixed value].

[No output] It is no output for the interface of PWM;

[Hold] Keeps the last output value;

[Fixed value] Outputs the failsafe values set for each channel.

Notes: 1. For bus signal types such as PPM/i-BUS/S.BUS/i-BUS2, a single or several of these channels are not allowed to be in [No output] mode. The actual signal is held at the last output value when the channel is set to [No output] mode.

2. Because the S.BUS/i-BUS2 signal information contains failsafe flag bits, the failsafe settings of each channel are communicated to subsequent devices by the failsafe flag bits. If the connected devices support the failsafe flag bit analysis, the failsafe values set for each channel are output after out of control.

3. For the signal PPM/i-BUS without failsafe flag bits, it supports the setting of the signal to [No output] mode in case of out of control. After setting to [No output] mode, regardless of the setting of the failsafe of each channel, each channel will be in [No output] mode after out of control.

**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。
- 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.
- 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 [FGr4P] 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.

FCC ID： N4ZFGR4P00

R 210-152003

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