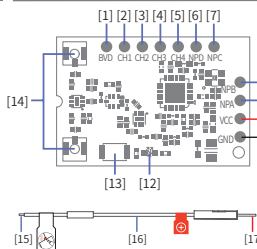


## 产品介绍 Introduction

EMr 是一款采用 900MHz 老鹰协议支持 8 个 PWM 通道输出的微型接收机。本接收机配备外置扣式双天线，支持单双向传输和回传功能，设计小巧轻便，易于安装，支持 4 个 Newport 功能接口（Newport 接口可自定义输入或输出的信号类型：i-BUS2/S.BUS/i-BUS/PPM/PWM 等）、支持 BVD 功能、可适配多种模型使用。

The EMr receiver, based on the 900MHz Eagle protocol, is a micro receiver equipped with 8 PWM channels. It features two buckle-type antennas, supports both one-way and two-way transmission, and includes telemetry capabilities. The design is compact and lightweight, making it easy to install. It supports 4 Newport function connectors, which can be customized to handle various input or output signal types, such as i-BUS2, S.BUS, i-BUS, PPM, PWM, etc. Additionally, it supports the BVD function and can be compatible with a variety of RC models.

## 接收机概览 Receiver Overview



- |                 |                   |                   |                       |
|-----------------|-------------------|-------------------|-----------------------|
| [1] BVD 线焊点     | [6] NPD (信号端焊点)   | [11] GND (电源负极焊点) | [16] FS-XC102 电池电压检测线 |
| [2] CH1 (信号端焊点) | [7] NPC (信号端焊点)   | [12] LED 灯        | [17] 接电池正极            |
| [3] CH2 (信号端焊点) | [8] NPB (信号端焊点)   | [13] 对码按键         |                       |
| [4] CH3 (信号端焊点) | [9] NPA (信号端焊点)   | [14] 天线           |                       |
| [5] CH4 (信号端焊点) | [10] VCC (电源正极焊点) | [15] 焊接头          |                       |
- 
- |                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| [1] BVD Cable Solder Joint        | [10] VCC (Power Anode Solder Joint)           |
| [2] CH1 (Signal Pin Solder Joint) | [11] GND (Power Cathode Solder Joint)         |
| [3] CH2 (Signal Pin Solder Joint) | [12] LED                                      |
| [4] CH3 (Signal Pin Solder Joint) | [13] BIND Button                              |
| [5] CH4 (Signal Pin Solder Joint) | [14] Antenna                                  |
| [6] NPD (Signal Pin Solder Joint) | [15] Solder Joint                             |
| [7] NPC (Signal Pin Solder Joint) | [16] FS-XC102 Battery Voltage Detection Cable |
| [8] NPB (Signal Pin Solder Joint) | [17] Connect to Battery Anode                 |
| [9] NPA (Signal Pin Solder Joint) |                                               |

## DIY 配件介绍:

FS-XC102 电池电压检测线: 当需要使用 BVD 功能检测电压时, 先将此线的焊接头端 (图 [15]) 焊接到接收机的 BVD 线焊点 (图 [1]) 处, 即可使用 BVD 功能检测电压。

注:

1. 使用 BVD 功能时, 需要将检测的电池负极与接收机电源负极 (图 [11]) 相连;
2. BVD 电压检测范围: 0~70V。

3 Pin 弯头插针 / 常规 3 股线: 用于焊接 NPA (图 [9])、VCC (图 [10]) 和 GND ([11]) 三处接口焊点, 参考左图; 可选择 Pin 弯头插针或常规 3 股线焊接于此 3 处接口, 注意若选择使用常规 3 股线时, 黑色线须焊接在 GND (图 [11]) 接口处, 红色线须焊接在 VCC (图 [10]) 接口处。

多色信号线 (7 条): 用于焊接 NPB-NPD 和 CH1-CH4 接口焊点, 参考左图。

1. 请注意焊接完毕后, 用新的热缩套管套住电路板, 以防止使用过程中接触金属而造成短路!

## DIY Accessories Introduction

FS-XC102 Battery Voltage Detection Cable: When you need to use the BVD function to detect voltage, first solder the Solder Joint of this cable (Figure [15]) to the BVD soldering point of the receiver (Figure [1]), and then you can use it.

Notes:

1. When using the BVD function, you need to connect the power cathode of the detected battery to the power cathode of the receiver (Figure [11]).

1. Please note that after soldering, you should use a new heat-shrinkable sleeve to cover the circuit board to prevent short circuits that may be caused by contact with metal during use.

2. BVD voltage detection range: 0~70V.

3 Pin 90-degree Bent Pin / Regular 3-strand Wire: Used for soldering NPA (Figure [9]), VCC (Figure [10]) and GND ([11]) three solder joints, refer to the left schematic diagram; You can choose one of the two to solder to these 3 interfaces. Note that if you choose to use regular 3-strand wires, the black wire must be soldered to the GND (Figure [11]) connector, and the red wire must be soldered to the VCC (Figure [10]) connector.

Seven Multi-colored Signal Wires: Used for soldering NPB-NPD and CH1-CH4 connector solder joints, refer to the schematic diagram.

## 产品规格 Product Specifications

- 产品型号: EMr
- 适配模型: 飞机、机器人
- PWM 通道数: 8
- 无线频率: 915MHz ISM/868MHz ISM
- 发射功率: <20dBm
- 无线协议: Eagle(老鹰协议)
- 天线类型: 外置双天线
- 通道分辨率: 4096 级
- 工作电压: 3.5 ~ 9V/DC
- 数据输出: PWM/PPM/i-BUS2/S.BUS/i-BUS
- 温度范围: -10°C ~ +60°C
- 湿度范围: 20%~95%
- 在线更新: 支持
- 外形尺寸: 18\*27\*3.5mm
- 机身重量: 1.7g (不带天线)
- 认证: CE, SRRC, FCC ID: 2A2UNEMR000000

- Product Model: EMr
- Compatible RC Models: Airplanes, Robots
- Number of PWM Channels: 8
- RF: 915MHz ISM/868MHz ISM
- Maximum Power: <20dBm (e.i.r.p.) (EU)
- RF Protocol: Eagle (Eagle Protocol)
- Antenna: Two external antennas
- Resolution: 4096
- Operating Voltage: 3.5~9V/DC
- Data Output: PWM/PPM/i-BUS2/S.BUS/i-BUS
- Temperature Range: -10°C ~+60°C
- Humidity Range: 20%~95%
- Online Update: Yes
- Dimensions: 18\*27\*3.5mm
- Weight: 1.7g (excluding two antennas)
- Certifications: CE, SRRC, FCC ID: 2A2UNEMR000000

## 对码 Binding

接收机支持双向对码和单向对码（双向对码完成后发射机将显示接收机回传的信息），因此对码前需在发射机端设置单向或双向对码。如需对码接收机与发射机，对码步骤如下所述。

### 双向对码步骤：

1. 发射机选择双向通信，然后进入对码状态；
2. 本接收机支持两种方式进入对码状态：按键对码和通电后按键对码
  - 按键对码：按下接收机对码按键且同时接通接收机电源，接收机 LED 灯快闪表示进入对码状态，然后松开对码键；
  - 通电后按键对码：接收机通电后未与发射机通信，长按对码键 3 秒，接收机 LED 灯快闪表示进入对码状态，然后松开对码键。
3. 接收机 LED 灯常亮，即对码成功。发射机对码成功后自动退出对码状态，对码完成；
4. 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。

### 单向对码步骤：

1. 发射机选择单向通信，然后进入对码状态；
2. 本接收机进入对码状态（进入对码状态的方式请参考双向对码时描述）；
3. 接收机 LED 灯变为慢闪后将发射机退出对码状态，此时接收机 LED 灯常亮，表示对码成功；
4. 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。

The receiver supports the two-way binding and one-way binding (the transmitter will display the information returned from the receiver after the two-way binding is finished). Therefore, you need to set the one-way or two-way binding on the transmitter side before the binding. If you need to bind the receiver with the transmitter, the steps are as follows.

### Follow the steps below to bind in two-way binding:

1. Select [2 WAY] for RF standard of the transmitter, then put the transmitter into binding mode.
2. The receiver supports two ways to enter binding mode: BIND button binding, and BIND button binding after power-on.
  - BIND Button Binding: Press and hold the BIND button of the receiver while powering on the receiver, the LED of the receiver should be flashing, indicating that the receiver is in bind mode. Then release the BIND button.
  - BIND Button Binding After Power-on: The receiver has not been connected to the transmitter when it is powered on. Press and hold the BIND button for 3 seconds, the LED of the receiver should be flashing, indicating that the receiver is in bind mode. Then release the BIND button.
3. When the LED of the receiver is solid on, the binding process should be finished. The transmitter exits the binding mode automatically.
4. Check to make sure the transmitter and receiver functions are working correctly, repeat steps 1 to 4 (binding process) if any problems arise.

### Follow the steps below to bind in one-way binding:

1. Select [1 WAY] for RF standard of the transmitter, then put the transmitter in binding mode.
2. Put the receiver into binding mode (Refer to the description above for entering binding mode).
3. After the receiver LED becomes slow flashing, then put the transmitter to exit the binding state. At this time, the receiver LED is solid on indicating the binding is successful.
4. Check to make sure the transmitter and receiver functions are working correctly, repeat steps 1 to 4 (binding process) if any problems arise.

## 固件更新 Firmware Update

本接收机的固件更新需要通过富斯遥控管家（FlySkyAssistant）来完成。请注意，只有 3.0 及以上版本的富斯遥控管家支持此操作，相关固件可以从官网 [www.flyskytech.com](http://www.flyskytech.com) 下载。更新过程可以通过以下两种方式进行：

**方式一：**首先完成发射机与接收机的对码（接收机 LED 灯常亮），然后将发射机连接到电脑。在电脑端打开富斯遥控管家软件，通过该软件进行固件更新。

**方式二：**首先将发射机连接到电脑，然后按照以下步骤使接收机进入强制更新状态（接收机 LED 灯状态为三闪一灭）：

- 按下对码按键，上电后等待 10 秒直到指示灯三闪一灭，然后松开对码按键；
- 先给接收机上电，然后长按对码键 10 秒，直到指示灯三闪一灭，随后松开对码按键。

完成上述步骤后，在电脑端打开富斯遥控管家软件，通过该软件完成固件的强制更新。强制更新完成后，接收机的指示灯将由三闪一灭状态变为慢闪状态。

The firmware update for this receiver must be completed through FlySkyAssistant. Please note that only versions 3.0 and later of FlySkyAssistant support this operation, and the relevant firmware can be downloaded from the official website [www.flysky-cn.com](http://www.flysky-cn.com). The update process can be carried out in two ways:

**Method 1 :** First, complete the binding between the transmitter and the receiver (the LED of the receiver is solid on), then

## 固件更新 Firmware Update

connect the transmitter to the computer. Open FlySkyAssistant on the computer and perform the firmware update through the software.

Method II : First, connect the transmitter to the computer, then follow these steps to put the receiver into forced update mode (the LED of the receiver will operate in three-flash-one-off mode repeatedly):

- Press the binding button, power on and wait for 10 seconds until the LED operates in three-flash-one-off mode repeatedly, then release the binding button.
- Power on the receiver first, then hold down the binding button for 10 seconds until the LED operates in three-flash-one-off mode repeatedly, then release the binding button.

After completing the above steps, open FlySkyAssistant on the computer and complete the forced firmware update through the software. After the forced update is completed, the LED of the receiver will change from three-flash-one-off state to a slow flashing state.

## 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。

本款接收机共支持三种失控保护模式：[ 无输出 ]、[ 保持 ] 和 [ 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 when the receiver loses RC signal and is out of control. The receiver performs channel output according to the set failsafe value to protect the safety of the model and personnel.

This receiver supports three failsafe modes: **No output**, **Hold**, and **Fixed value**.

**No output:** No output for PWM channel.

**Hold** Keep: Maintain the last output value.

**Fixed value:** Output the failsafe values that have been 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。
- 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，将会导致遥控设备失控。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 lead to lose 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, [ShenZhen FLYSKY Technology Co., Ltd.] declares that the Radio Equipment [EMr] 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](http://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: 2A2UNEMR000000



微信公众号



Bilibili



Website



Facebook

Manufacturer: ShenZhen FLYSKY Technology Co., Ltd.

Address: 16F, Huafeng Building, No. 6006 Shennan Road, Futian District, Shenzhen, Guangdong, China

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