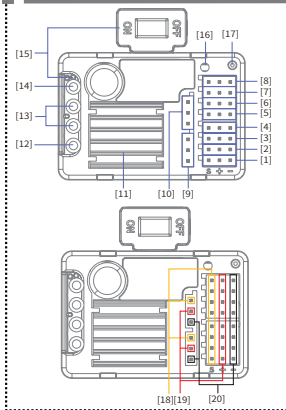
产品介绍 Introduction

FS-FMS-R11D-ESC-BS 是一款采用 2A-BS 协议的二合一 11 通道接收机，集成了电调和 LED 灯组控制功能。它具有外置单天线，能够实现双向传输，并采用通电自动对码技术。该接收机可输出 PWM 信号和车灯控制信号，可搭配车灯驱动板使用，可适配多种车型。

The FS-FMS-R11D-ESC-BS uses the 2A-BS protocol and is a 2-in-1, 11-channel receiver that integrates electronic speed controller (ESC) and LED light group control functions. It features an external single antenna, enabling two-way communication and automatic binding upon power-on. It can output PWM signals and LED light control signals and can be used with an LED light unit. It is compatible with a variety of RC cars.

接收机概览 Receiver Overview



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

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

注：

1. 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；电机接口采用 4.0 mm 子弹头母型接口。
2. 车灯扩展接口用于连接 DB01 车灯驱动板。

Notes:

1. All channel connectors are 2.54mm*3 Pin standard connectors, and the battery connector is XT60 male connector, and the motor connector is a 4.0 mm bullet female connector.
2. The LED light expansion connector is used to connect the DB01 LED light unit.

产品规格 Product Specifications

- 产品型号：FS-FMS-R11D-ESC-BS
- 适配发射机：FS-FMS-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（车灯扩展接口连接 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）
- 工作电压：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
- 固件更新：不支持
- 外形尺寸：44.0mm*30.0mm*16.7mm
- 机身重量：45g
- 认证： CE，FCC ID: 2A2UNR11D00

- Product Model: FS-FMS-R11D-ESC-BS
- Compatible Transmitters: FS-FMS-MG11-BS
- Compatible RC Models: 1 /8 crawler, on-road car, off-road short course truck, and truck
- Number of Channels: 11
- Number of LED Lights: 6 (The LED ight unit connects to the LED light expansion interface.)
- RF: 2.4GHz ISM
- Maximum Power: < 20dBm (e.i.r.p.) （EU）
- RF Protocol: 2A-BS
- Antenna: Single External Antenna(Coaxial Antenna)
- Operating Voltage: LiPo (2~3S)/NiMH(5~9Cell)
- BEC Output: 6V/5A
- Continuous / Peak Current: 60A/240A
- Motor Type: Brushed Motor
- Applicable Motors: 370, 390, 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
- Firmware Update: Not Supported
- Dimensions: 44mm*30mm*16.7mm
- Weight: 45g
- Certifications: CE, FCC ID: 2A2UNR11D00

对码 Binding

本款接收机支持双向对码，通电自动进入对码状态：

- 接收机上电即进入等待连接状态，等待与已对码的发射机建立通信；
- 若 2 秒 未与已对码的发射机建立通信，则自动进入对码状态，此状态持续 10 秒；
- 若与发射机对码成功，即进入正常通信状态；否则退出对码状态，回到等待连接状态。

注：对码时，接收机 LED 灯快闪；等待连接时，接收机 LED 灯慢闪；正常通信时，接收机 LED 灯常亮。

对码步骤如下：

1. 将发射机进入对码状态；
2. 接收机通电等待 2 秒没有连接后自动进入对码状态，此时接收机 LED 灯快闪；

This receiver is compatible with two-way binding, and is to automatically enter the binding mode upon power-on.

- The receiver will enter the waiting-for-connection status upon power-on, waiting for the connection to the bound transmitter.
- If the receiver does not connect the bound transmitter within 2 seconds, it will automatically enter the binding state. This state lasts for 10 seconds.
- If the binding with the transmitter is successful, it will enter the normal communication status, otherwise, it will exit the binding state and return to the waiting-for-connection status.

Note: In case of binding, the receiver LED flashes quickly. In case of waiting-for-connection, the receiver LED flashes slowly. In case of normal communication, the receiver LED is solid on.

The binding steps are as below.

1. Put the transmitter into binding mode.

对码 Binding

3. 对码成功后，接收机 LED 灯常亮；
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。

注：对码时请先将发射机进入对码状态，再将接收机进入对码状态，若 10 秒内对码没有完成，接收机 LED 灯进入慢闪状态。

2. Turn on the receiver, and it will wait 2 seconds for connection. If without connection, the receiver will enter the binding mode automatically. At this time, the receiver LED will be flashing fast.
3. After the binding is successful, the receiver LED is solid on.
4. Verify that the transmitter and receiver are working properly. If you need to re-bind, repeat the above steps.

Note: Set the transmitter to its binding state first, and then set the receiver to its binding status. If the binding is not finished within 10 seconds, the receiver LED will enter a slow flashing status.

保护功能 Protection

本接收机具有电池低电量、电池电压过低和过高保护功能。
- 检测到低电量时，CH2 输出减半。
- 电压过低保护：当检测到电池电压过低时，CH2 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 无输出，所有车灯快闪提示；当温度正常后，通道恢复输出。

可将电池电压（高、中、低、过低）回传到发射机端。
- 用于发射机端指示接收机电池电量状态。

The receiver features low battery, low and high voltage protection functions.
- Low Battery: When a low battery is detected, the output of CH2 will be halved.
- Low Voltage Protection: When the voltage is detected to be low, CH2 will not output and all the LED lights will flash slowly for prompt.
- High Voltage Protection: When the voltage is detected to be high, all channels will not output. All the LED lights will flash fast for prompt.

The receiver ESC has overheating protection function.
- Overheating Protection: When the internal temperature of the receiver is detected to be too high, CH2 will not output and all the LED lights will flash fast for prompt. When the temperature is normal, the channel resumes output.

The receiver can return the battery voltage (high, medium, low, ultra-low) back to the transmitter side.
- The transmitter can indicate the battery power status of the receiver.

车灯控制 LED Light Control

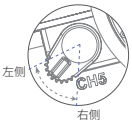
本接收机支持 6 组车灯：左转灯、右转灯、日行灯、前大灯、刹车灯和倒车灯（此 6 组车灯通过 DB01 车灯驱动板与本接收机建立连接）。

车灯状态由 FS-FMS-MG11-BS 发射机的相应控件控制：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。

左转灯和右转灯：默认转向灯功能为开启状态，旋转手轮即可触发左右转向灯。在正常通信情况下，可顺时针旋转手轮至最大位置，然后同时短按 CH4 按键，以关闭转向灯功能。继续短按 CH4 按键，可开启或关闭转向灯功能。转向灯功能开启后，左转灯和右转灯的亮灭状态由手轮控制。关机时，系统会保存当前的设置。再次开机时，转向灯状态将与上次关机时保持一致。

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	/
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	
	常灭				
	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：
1. 接收机开机后，所有车灯长亮 1 秒后灭；
2. 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；
3. 方向通道设置反向后对左、右转向灯无影响。通道 5 设置反向后对日行灯和前大灯控制无影响。

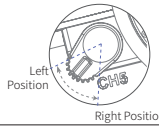
This receiver features six sets of LED lights: Turn signal left light, turn signal right light, daytime running light, headlight, brake light and reverse light. And these six sets of LED lights are connected to this receiver through the DB01 LED light unit.

The status of all the LED lights is controlled by the corresponding controls of the FS-FMS-MG11-BS transmitter. The daytime running light and headlight are controlled by the CH5 knob.

The brake and reverse lights are controlled by the throttle trigger.

The turn signal function (left and right) is enabled by default. Rotating the steering wheel will activate the corresponding left or right turn signal. Under normal communication conditions, the turn signal function can be disabled by rotating the steering wheel fully clockwise while shortly pressing the CH4 button. Pressing the CH4 button again toggles the function between enabled and disabled states. When the turn signal function is enabled, the on/off state of the left and right turn signals is controlled by the steering wheel. The current setting is saved automatically upon power-off. When powered on again, the turn signal state will be restored to its pre-shutdown status.

Details are as follows:

LED Lights	LED Light Status	Control State	Control	Trigger Condition	Notes
Turn Signal Left Light	Slow Flashing	Turn Left	Steering Wheel	Turn the steering wheel counterclockwise.	/
Turn Signal Right Light	Slow Flashing	Turn Right	Steering Wheel	Turn the steering wheel clockwise.	
Daytime Running Light	OFF	/	CH5 Knob	Toggle the CH5 Knob is to the far left.	
	Solid ON			Toggle the CH5 Knob to the middle position.	
	Solid ON			Toggle the CH5 Knob to the far right.	
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 ESC is in Forward/Reverse mode (no brake), the Brake Light won't turn on when you push the throttle trigger forward.
Reverse Light	Solid ON	Back up	Trigger	Push the throttle trigger forward.	/

车灯控制 LED Light Control

Notes:

1. After the receiver is turned on, all the LED lights will be on for one second and then go out.
2. The steering channel (CH1) and throttle channel (CH2) are capable of automatic neutral identifying, after the trim is adjusted, the receiver should be powered again to recognize the neutral positions of these two channels automatically.
3. If you have set the steering channel in reverse, the trigger condition for turn signal left light and turn signal right light will not be affected. And if you have set the CH5 in reverse, the trigger condition for daytime running lights and headlights will not be affected.

闲置报警 Idle Alarm

本接收机具有闲置报警功能。

进入闲置报警状态

当接收机检测到对码的发射机通道值超过 10 分钟未变化时，即进入闲置报警状态。此时，电机持续慢响提示。

退出闲置报警状态

重启接收机即可退出闲置报警状态。

This receiver has an idle alarm function.

Entering Idle Alarm State

When the receiver detects that the channel values of the bound transmitter have not changed for over 10 minutes, it enters the idle alarm state. At this time, the motor will continuously beep slowly as a reminder.

Exiting Idle Alarm State

The receiver will exit the idle alarm state when it receives a change in the transmitter's channel values.

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-FMS-MG11-BS 发射机说明书相关章节。

电机连接后，会以声音先提示连接的电池类型，再提示油门中位校准信息。

- 当连接的电池类型为锂电时，如使用 2S 锂电，则电机快响两声（3 声代表 3S 锂电）提示；如使用镍氢电池，则电机响一声提示。
- 当油门中位识别通过后，电机长响一声提示。
  若未识别油门中位，电机持续慢响提示，且无动力输出。

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。

This receiver ESC function supports the settings of battery type, drag brake force and running mode (forward/reverse, forward/reverse/brake) at the transmitter side. See the FS-FMS-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 connected battery type is NiMH, the motor will fast beep once.
- When the throttle neutral is recognized, the motor will long-beep once. If throttle neutral is not recognized, the motor will continue to beep slowly. 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.

故障现象	可能原因	解决方法
上电后 , 指示灯不亮，电机无法启动。	1. 电调没有得到工作电压。	1. 检查电池与电调有无连接问题以及相关插头是否有虚焊情况。
	2. 接收机开关或电调损坏。	2. 返厂检测处理。
上电后，电机持续慢响，无法启动。	发射机油门通道的中点偏移或改变。	调节发射机油门通道微调使之匹配电调现有中立点。
发射机做前进操作，车子反而倒退。	发射机油门方向设置错误。	将发射机油门方向设置为相反方向。
电机转动过程中，突然停转。	1. 油门信号丢失。	1. 检查发射机和接收机。
	2. 电调进入电池低压 / 高压保护或过热保护。	2. 请检查电池电压以及电调温度。
启动时急加速，有卡住或停顿的现象。	1. 电池放电能力不够。	1. 更换放电能力强的电池。
	2. 电机转速过高，齿轮比搭配不合适。	2. 更换低速电机，或将减速比提高。

Troubles	Possible Causes	Solutions
The motor cannot start and the LED is not on after power on.	1.The ESC has no working voltage.	1. Check whether there is any connection problem between the battery and ESC and whether there is faulty welding of the relevant plug.
	2. The power switch of receiver is damaged.	2. Return to factory for inspection and treatment.
The motor cannot start and beeps slowly after power-on.	The neutral of throttle channel of transmitter is shift or changed.	Adjust the throttle channel of the transmitter to match the existing neutral.
When forward the car by the transmitter, it reverse.	The throttle direction of transmitter is wrongly set.	Set throttle direction of transmitter to the opposite direction.
The motor suddenly stops rotating during rotation.	1. The throttle signal is lost.	1. Check the transmitter and the receiver.
	2. The ESC enters low/high voltage protection or overheat protection of battery.	2. Check the battery voltage and the temperature of the ESC.
When the motor starts, it accelerates rapidly, and the motor is stuck or stops.	1. Battery discharge capacity is insufficient.	1. Replace battery with strong discharge capacity.
	2. The rotation speed of motor is too fast, the gear ratio is not reasonable.	2. Replace low speed motor, orincrease the reductionratio.

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（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

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

失控保护 Failsafe

通道保持最后输出；
- 失控后，左、右车灯同步慢闪提示。

is not set, and the receiver will maintain the last output at the time.
- 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，高温将会毁坏动力系统。
- 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。
- 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.
- Normally, you must power on the transmitter and then receiver, and power off the receiver and then the transmitter.
- 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, [ShenZhen FLYSKY Technology Co., Ltd.] declares that the Radio Equipment [FS-FMS-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.flyskytech.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.

微信公众号 Bilibili Website Facebook

FCC ID: 2A2UNR11D00

本说明书中的图片和插图仅供参考，可能与实际产品外观有所不同。 产品设计和规格可能会有所更改，恕不另行通知。
Figures and illustrations in this manual are provided for reference only and may differ from actual product appearance. Product design and specificatiions may be changed without notice.

Manufacturer: ShenZhen FLYSKY Technology Co., Ltd.
Address: 16F, Huafeng Building, No. 6006 Shennan Road, Futian District, Shenzhen, Guangdong, China
http://www.flysky-cn.com