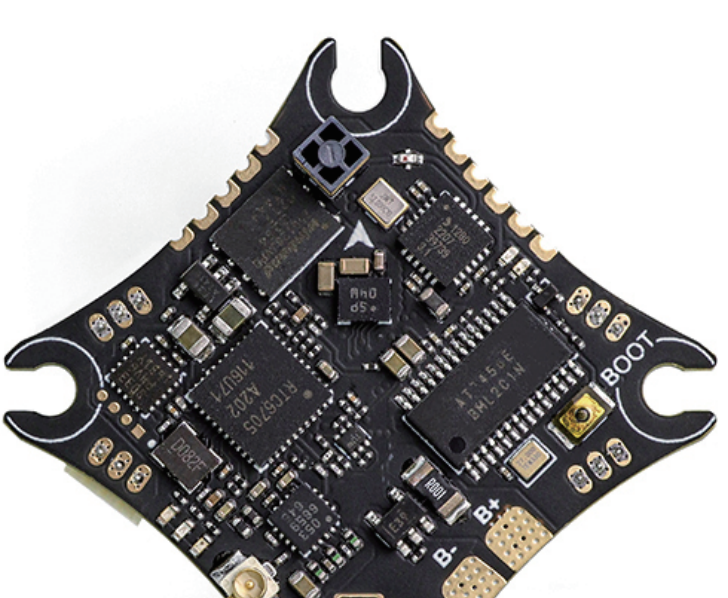
ZEUS5 ES24 1S AIO
说明书



产品参数

产品名称：ZEUS5 ES24 1S AIO

MCU：STM32F411

MPU：BMI270

BEC：5V1.5A

黑匣子：16M

OSD：支持

LED：支持

蜂鸣器：支持

UARTS：1 图传OSD调参/2 CRSF 协议接收机

内置接收机：SPI ExpressLRS 2.4G

内置接收机频率：2.4GHZ

内置图传：25-100-200mW (可调)

内置图传频率：48CH-5.8Ghz

持续电流：5A

峰值电流：7A(10s)

电调协议：Dshot600,Oneshot,Multishot

飞控固件：HGLRCF411SX1280（需要BF4.4以上固件）

电调固件：O-H-5 （Bluejay）

输入电压:1S 2.9-4.35v（Lipo）

尺寸:32x32mm

安装孔位:25.5X25.5mm.M2

重量:6.2g

发货清单

1x ZEUS5 ES24 1S AIO

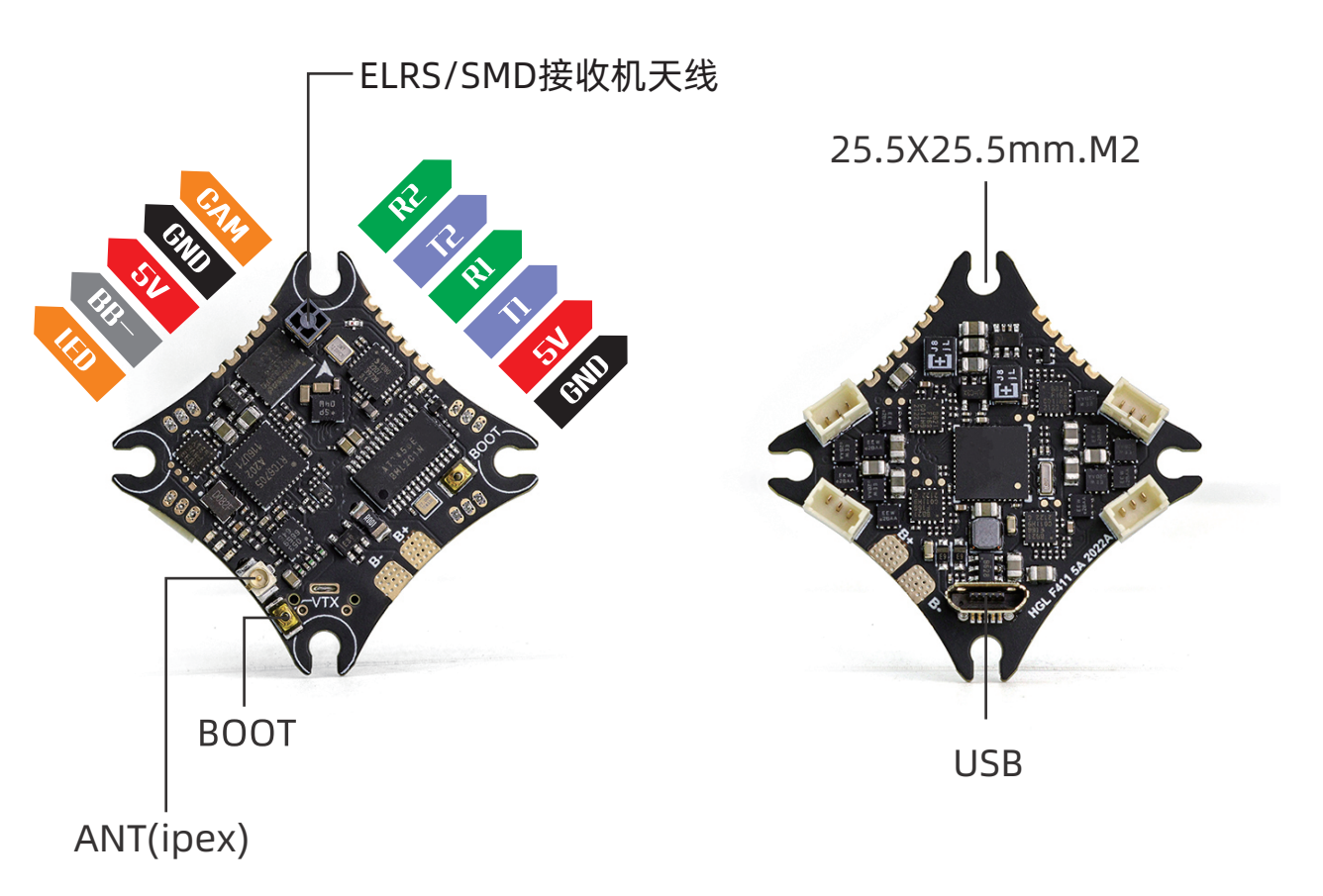
1x XT30U-M 22AWG 70mm公头电源线

1x PH2.0-2P 22AWG 35mm公头电源线

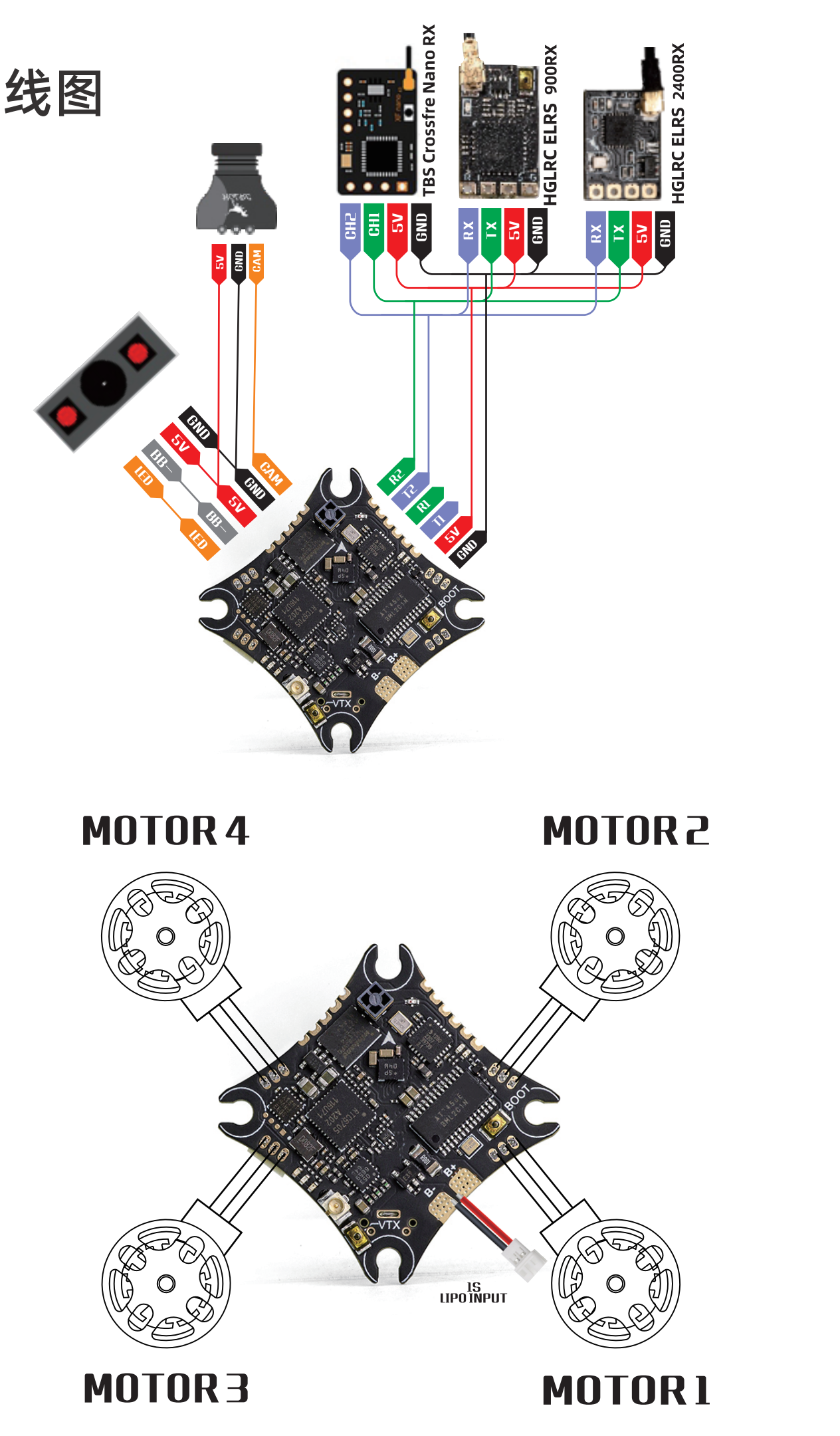
1x MX1.25-3P 30AWG 75mm摄像头线

4x M2*6.6减震柱

接口定义



接线图



接收机对频步骤

1.通过连接USB给飞控供电，请确保电脑已经正确安装飞控的端口驱动

打开Betaflight调参软件进行连接，进入到接收机界面

点击“接收机对频”，飞控右侧的绿色LED会快速闪烁，这意味着SPI ELRS接收机进入对频模式

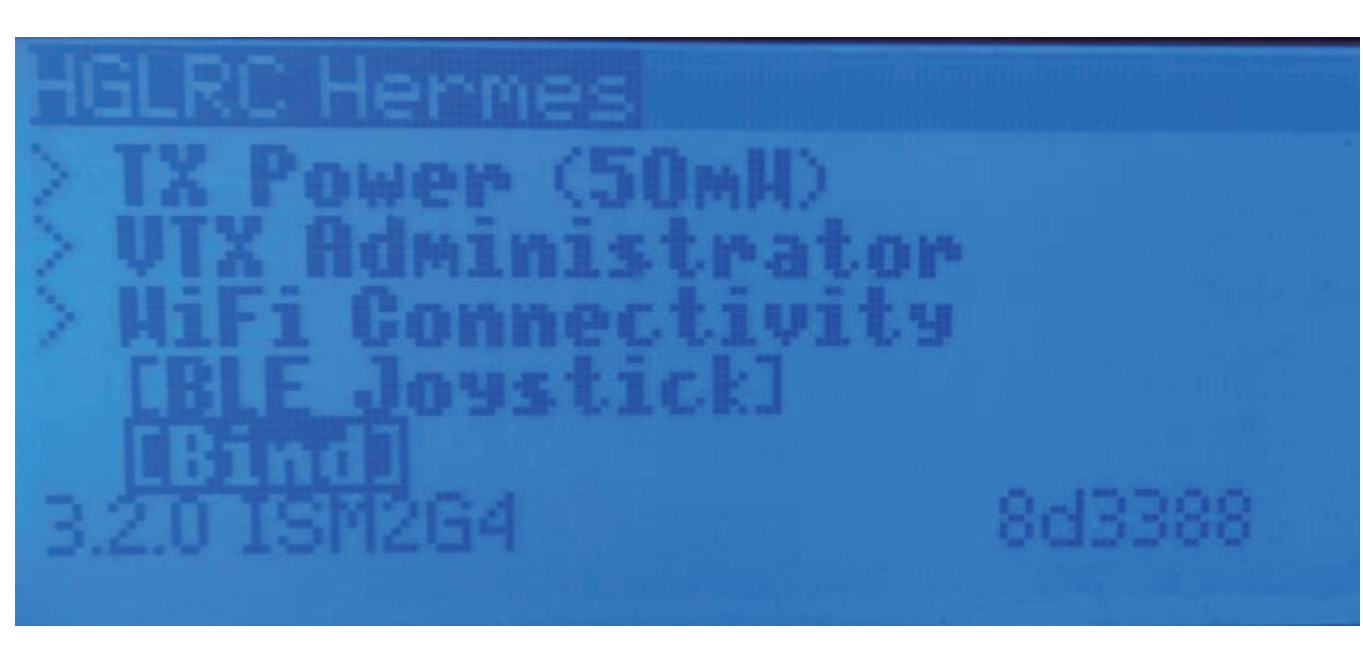
接收机对频 刷新 保存

还有一种使接收机进入对频模式的方式是：

连接到调参软件以后，点击CLI界面，在命令提示行里输入“bind_rx”

2.打开遥控器找到ELRS高频头的LUA调参脚本

找到调参脚本进入Bind对频模式，默认为ELRS 3.0无密码



3.绑定成功后，接收机上的LED会变为常亮，同时也能接收到遥测信号。

4. 飞控SPI接收机LED状态含义

LED常亮表示对频成功或者连接通讯正常

LED快闪表示接收机处于对频状态

LED慢闪表示接收不到发射机信号

5. 内置SPI接收机刷新率pck.rate设置办法

连接betaflight然后到CLI命令提示行输入以下命令：

Set expresslrs_rate_index = 3

Save

允许范围值Allowed range: 0 - 4

默认值Default value: 0

数值代表的刷新率0=500Hz,1=250Hz,2=150Hz,3=50Hz,4=25Hz

根据你的需求或者高频头的pck.rate选择对应的刷新率

功能及应用说明

1.图传参数设置方式为飞控OSD控制和按键控制

2.飞控OSD控制所使用的协议为：IRC tramp

对应功率参数表数值为“TR PIT/ 25/100/200”

3.按键控制定义

长按3秒以上进入调整模式，再次长按3秒以上跳至下一级(保持不动5秒以上自动保存)

一级CH（红灯 频点1）短按改变频点“1→2→3→...→8→1”循环

二级BAND（绿灯 频道A）短按改变频道“A→B→E→F→R→A”循环

三级Power（蓝灯 频率25mw）短按改变频率“PIT→25→...200→PIT”循环

功率指示灯状态

<table>
<tr><th>指示灯：绿色</th><th colspan="2">闪1下</th><th colspan="2">闪2下</th><th colspan="2">闪3下</th><th>闪4下</th><th>闪5下</th></tr>
<tr><td>频道</td><td colspan="2">BOSCAM_A1</td><td colspan="2">BOSCAM_B</td><td colspan="2">BOSCAM_E</td><td>FATSHARK</td><td>RACEBAND</td></tr>
<tr><th>指示灯：红色</th><th>闪1下</th><th>闪2下</th><th>闪3下</th><th>闪4下</th><th>闪5下</th><th>闪6下</th><th>闪7下</th><th>闪8下</th></tr>
<tr><td>频点</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><th>指示灯：蓝色</th><th colspan="2">闪1下</th><th colspan="2">闪2下</th><th colspan="2">闪3下</th><th>闪4下</th><th>闪5下</th></tr>
<tr><td>频率</td><td colspan="2">25</td><td colspan="2">100</td><td colspan="2">200</td><td>/</td><td>/</td></tr>
</table>

频率表

频道(绿灯)	频段(红灯)							
	1	2	3	4	5	6	7	8
A	5865	5845	5825	5805	5785	5765	5745	5725
B	5733	5752	5771	5790	5809	5825	5847	5866
E	5705	5685	5665	5665	5885	5905	5905	5905
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917

使用注意事项

1.通电前确定输出端已安装天线，以免损坏内部元件。

2.注意输入电压在规定范围内且正确无误，以免损坏内部元件。

3.飞控温度较高，严禁用手直接触摸，以免受伤。

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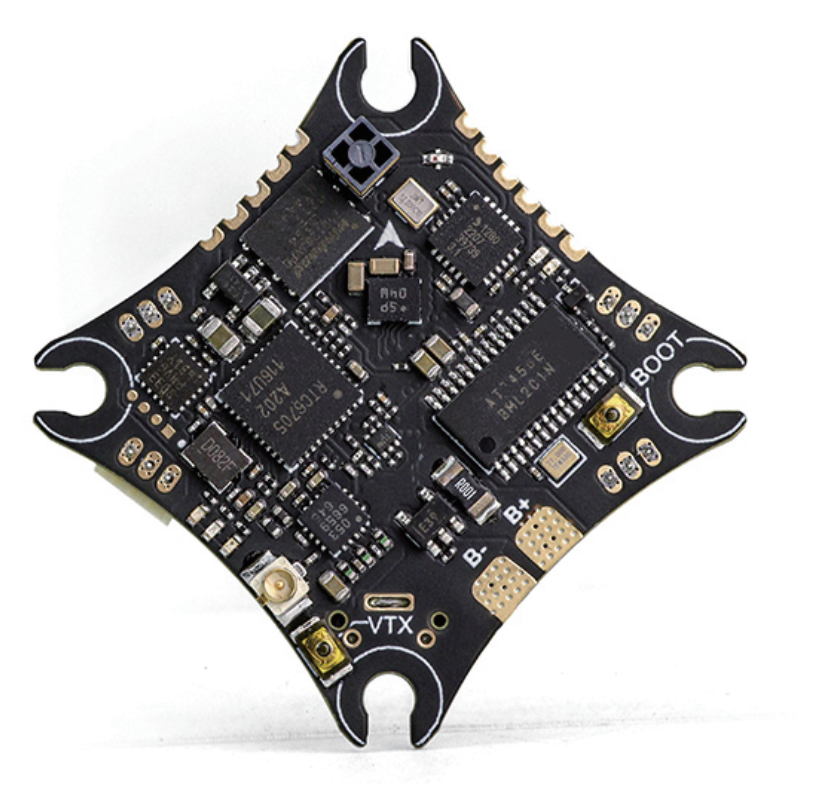
ZEUS5 ES24 1S AIO
Manual



Product parameters

Product name： ZEUS5 ES24 1S AIO

MCU： STM32F411

MPU： BMI270

BEC： 5V1.5A

Black box： 16M

OSD： support

LED： support

Buzzer: support

UARTS: 1 VTX OSDAdjustment parameters/2 CRSF protocol receiver

Built-in receiver: SPI ExpressLRS 2.4G

Built-in receiver frequency: 2.4GHZ

Built-in VTX: 25-100-200mw (adjustable)

Built-in VTX Frequency: 48CH-5.8Ghz

Continuous current: 5A

MAX current: 7A(10s)

ESC protocol: Dshot600, Oneshot, Multishot

FC firmware: HGLRCF411SX1280 (requires BF4.4 and above firmware)

ESC Firmware: O-H-5 (Bluejay)

Input voltage: 1S 2.9-4.35v (Lipo)

Size: 32x32mm

Mounting hole: 25.5X25.5mm.M2

Weight: 6.2g

Shipping list

1X ZEUS5 ES24 1S AIO

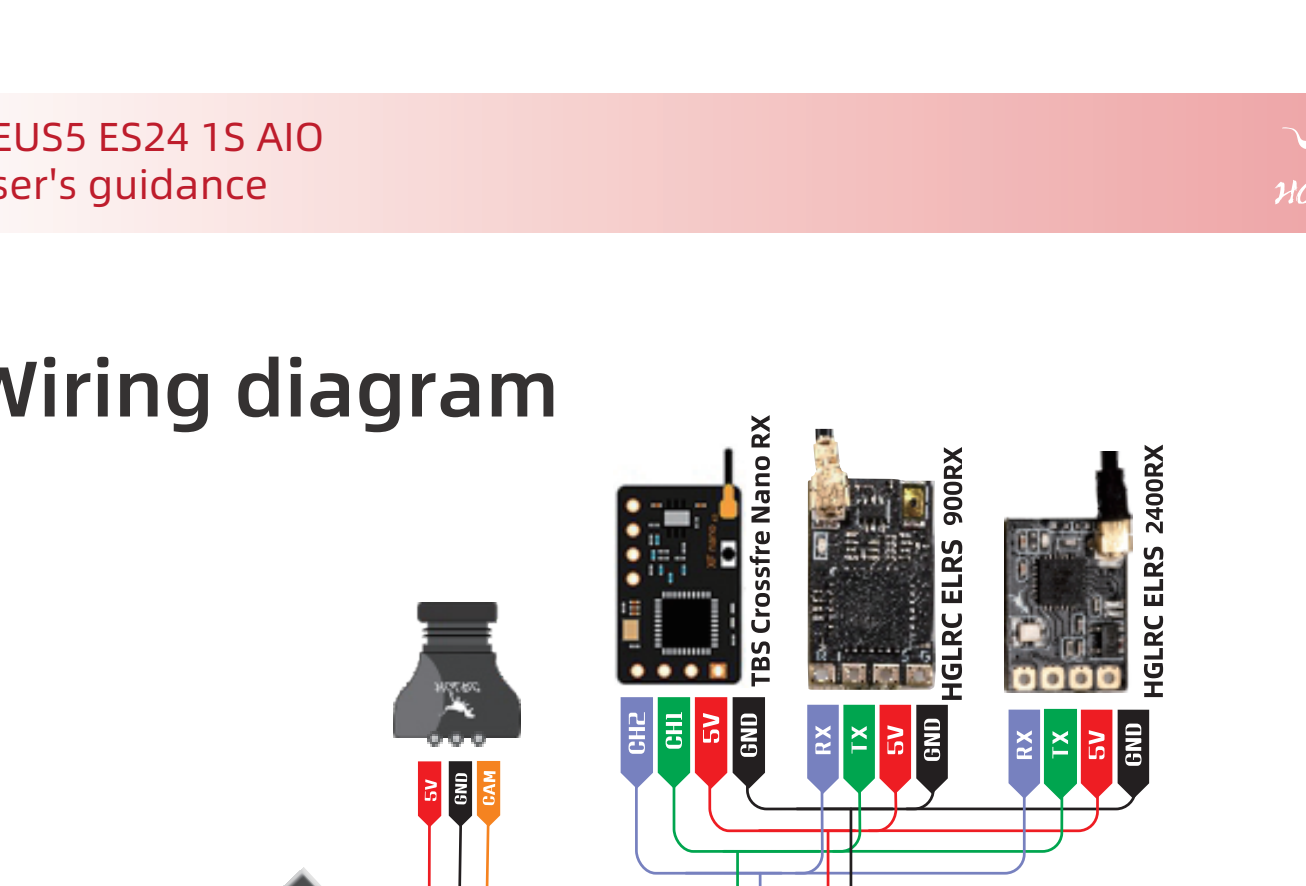
1x XT30U-M 22AWG 70mm male power cord

1x PH2.0-2P 22AWG 35mm male power cord

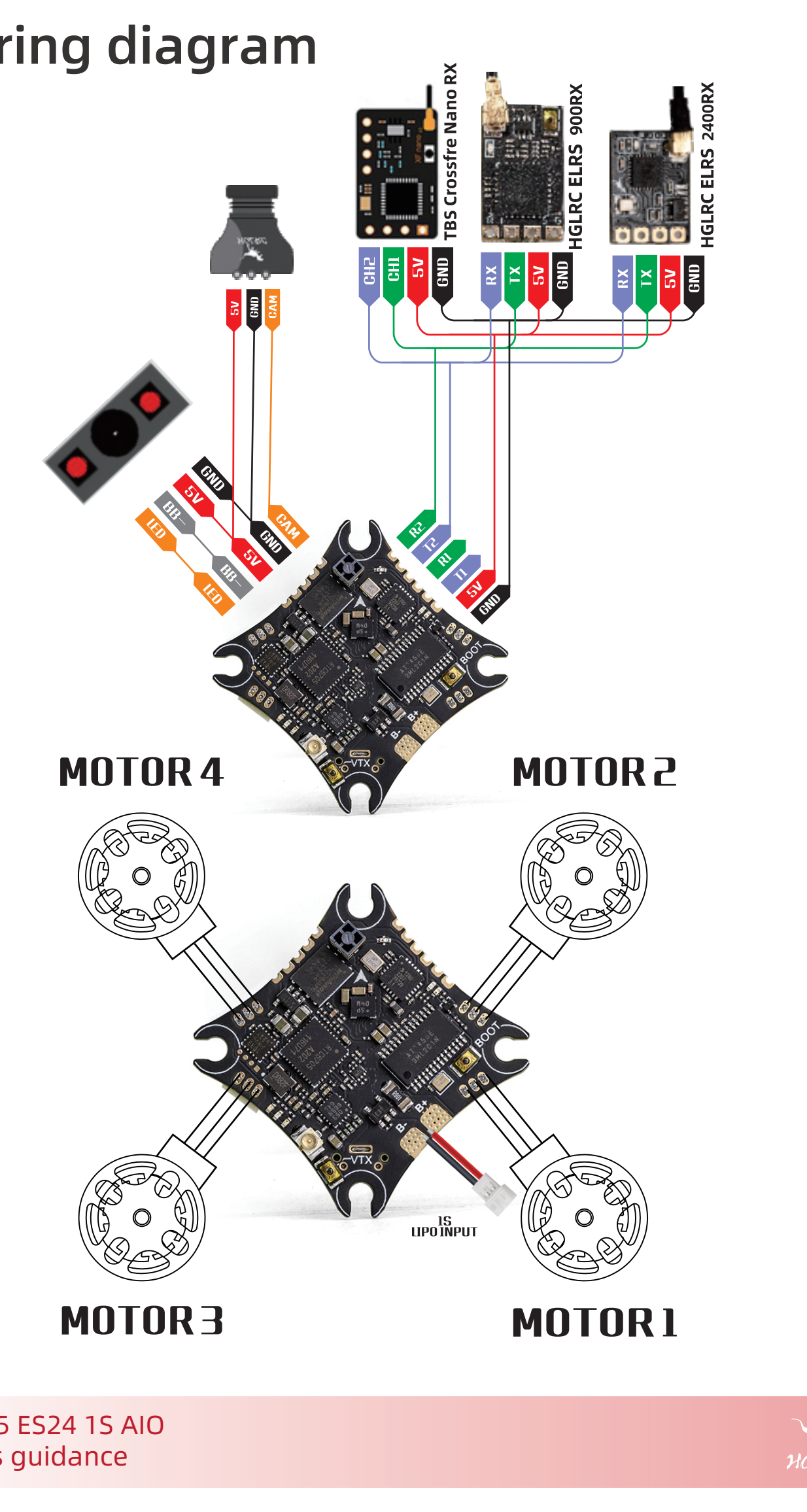
1x MX1.25-3P 30AWG 75mm camera cable

4x M2*6.6 Shock-absorbing column

Interface definition



Wiring diagram



Receiver Binding Steps

1. Power the flight control by connecting the USB, please make sure the computer has correctly installed the port driver of the flight control

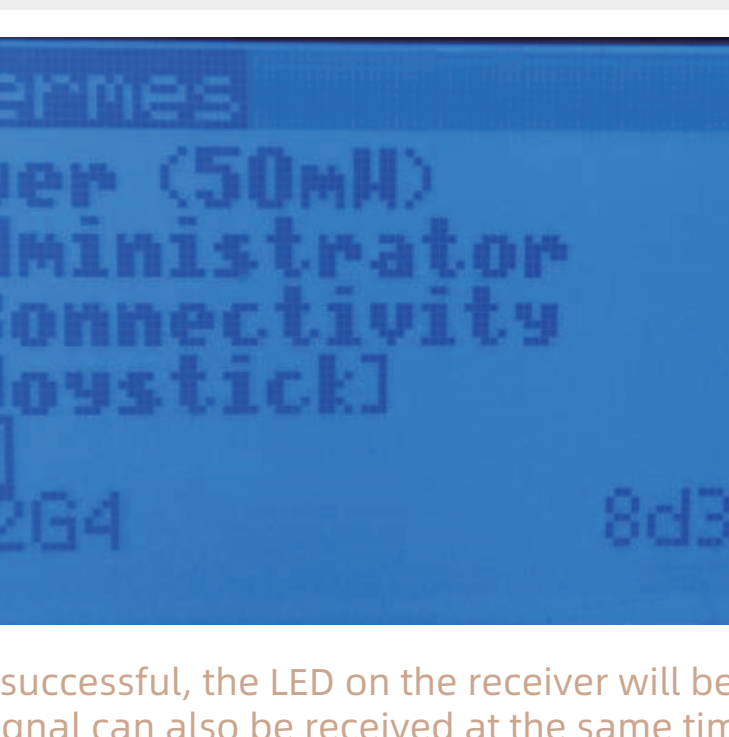
Open the Betaflight adjustment parameter software to connect and enter the receiver interface

Click "Receiver Binding", the green LED on the right side of the flight controller will flash quickly, which means that the SPI ELRS receiver enters the frequency binding mode

Bind Receiver | Refresh | Save

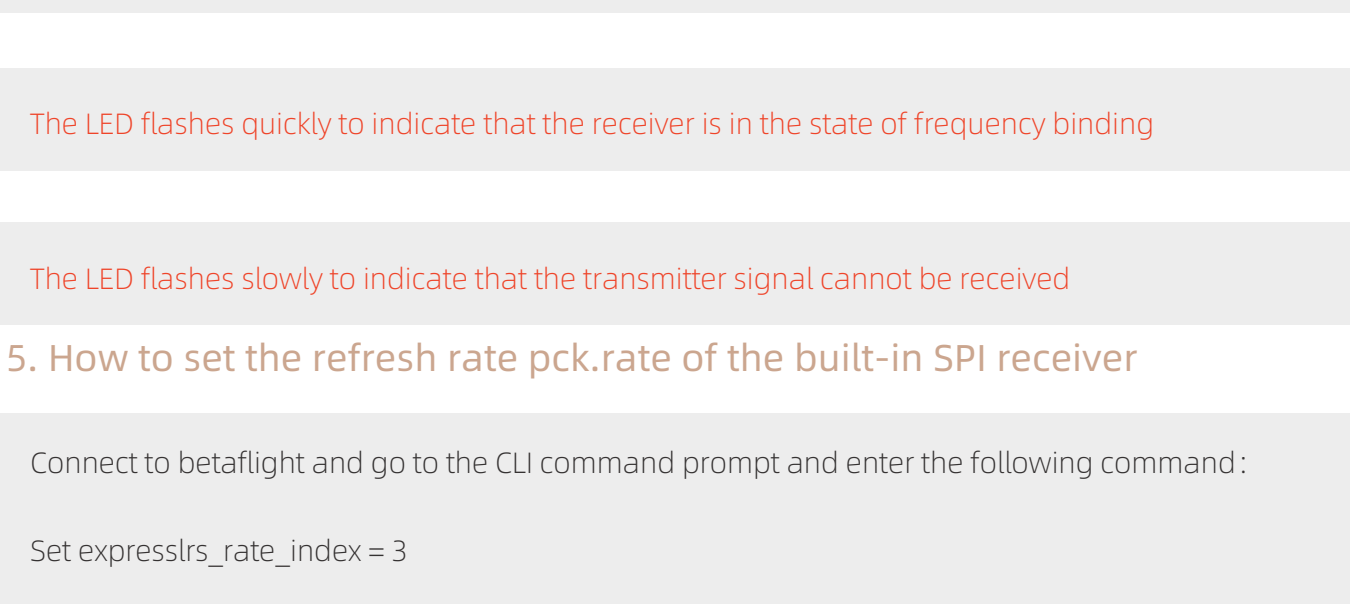
Another way to make the receiver enter the binding mode is：

After connecting to the assistant software,
click on the CLI interface and enter "bind_rx"



2. Open the remote control to find the LUA adjustment parameter script of the ELRS tune

Find the parameter adjustment script and enter Bind frequency mode, the default is ELRS 3.0 without password



3. After the binding is successful, the LED on the receiver will become always on, and the telemetry signal can also be received at the same time

4. Meaning of LED status of flight control SPI receiver

The LED is always on, indicating that the frequency binding is successful or the connection and communication are normal

The LED flashes quickly to indicate that the receiver is in the state of frequency binding

The LED flashes slowly to indicate that the transmitter signal cannot be received

5. How to set the refresh rate pck.rate of the built-in SPI receiver

Connect to betaflight and go to the CLI command prompt and enter the following command：

Set expresslrs_rate_index = 3

Save

Allowed range: 0 - 4

Default value: 0

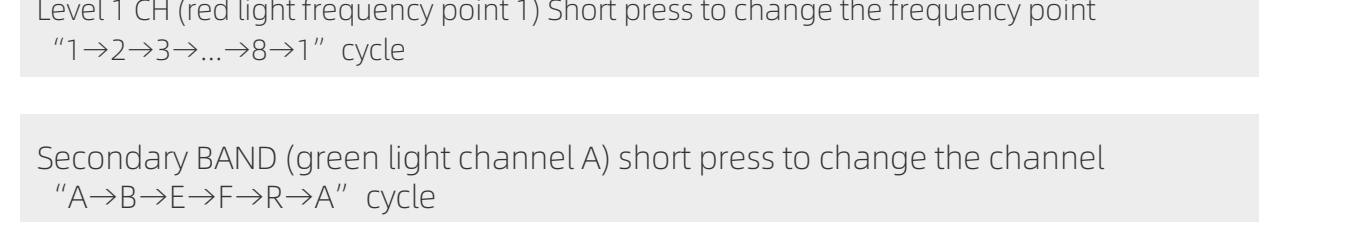
The refresh rate represented by the value is 0=500Hz, 1=250Hz, 2=150Hz, 3=50Hz, 4=25Hz.

Select the corresponding refresh rate according to your needs or the pck.rate of the tuner

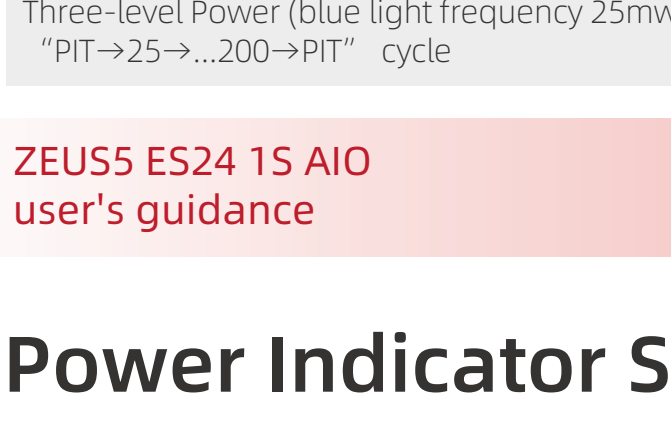
Function and application description

1. The VTX parameter setting method is flight control OSD control and button control

2. The protocol used for FC OSD control is: IRC tramp



The corresponding power parameter table value is "TR PIT/ 25/100/200"



3. Definition of button control

Press and hold for more than 3 seconds to enter the adjustment mode, press and hold again for more than 3 seconds to jump to the next level (keep it still for more than 5 seconds to automatically save

Level 1 CH (red light frequency point 1) Short press to change the frequency point "1→2→3→...→8→1" cycle

Secondary BAND (green light channel A) short press to change the channel "A→B→E→F→R→A" cycle

Three-level Power (blue light frequency 25mw) Short press to change the frequency "PIT→25→...200→PIT" cycle

Power Indicator Status

<table>
<tr><th>Indicator light: green</th><th colspan="2">Flash 1 time</th><th colspan="2">Flash 2 time</th><th colspan="2">Flash 3 time</th><th>Flash 4 time</th><th>Flash 5 time</th></tr>
<tr><td>Channel</td><td colspan="2">BOSCAM_A1</td><td colspan="2">BOSCAM_B</td><td colspan="2">BOSCAM_E</td><td>FATSHARK</td><td>RACEBAND</td></tr>
<tr><td>Indicator light: red</td><td>Flash 1 time</td><td>Flash 2 time</td><td>Flash 3 time</td><td>Flash 4 time</td><td>Flash 5 time</td><td>Flash 6 time</td><td>Flash 7 time</td><td>Flash 8 time</td></tr>
<tr><td>Frequency</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td>Indicator light: blue</td><td colspan="2">Flash 1 time</td><td colspan="2">Flash 2 time</td><td colspan="2">Flash 3 time</td><td>Flash 4 time</td><td>Flash 5 time</td></tr>
<tr><td>Frequency</td><td colspan="2">25</td><td colspan="2">100</td><td colspan="2">200</td><td>/</td><td>/</td></tr>
</table>

Frequency table

channel (green light)	Frequency band (red light)							
	1	2	3	4	5	6	7	8
A	5865	5845	5825	5805	5785	5765	5745	5725
B	5733	5752	5771	5790	5809	5825	5847	5866
E	5705	5685	5665	5665	5885	5905	5905	5905
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917

Attention：

1. Make sure that the antenna is installed at the output end before powering on, so as not to damage the internal components.
2. Note that the input voltage is within the specified range and correct, so as not to damage the internal components
3. The temperature of the flight controller is high, so it is strictly forbidden to touch it directly with hands to avoid injury.

Contact us

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