# reflexV3

## Bluetooth version

scan the QR code to download the app

扫描二维码即可下载APP

## Reflex system overview

1.Utilizes a high-speed 32-bit ARM processor onboard.
2.Sensors: Solid-state 3 axis gyro and 3 axis accelerometer.
3.Automatically recognizes SBUS/PPM/PWM systems, compatible with all radio systems with 4 channels or above.
4. Reflex V3 version can be connected to a mobile app via Bluetooth after power-on, unlocking parameter setting functions (available for non-FMS models as well).
5. User-friendly operation: Synchronize required parameters through computer software or mobile app, connect Reflex V3 to the receiver, and set up the corresponding channels and directions on the remote controller. (Note: Parameter setting functions are only supported by the mobile app.)

## Reflex functions

3 flight modes are available: Stabilized, Optimized or off. This is controlled with a 2 or 3 position switch on the transmitter. When assigned to a 2 position switch, the Reflex system switches between stabilized and optimized modes.

Stabilized mode-
Designed for beginners, Reflex will rapidly level the aircraft from any attitude when this mode is activated. Stabilized mode combines accelerometer and gyro data to determine how to level the aircraft when the control sticks are released- giving pilots absolute peace of mind.

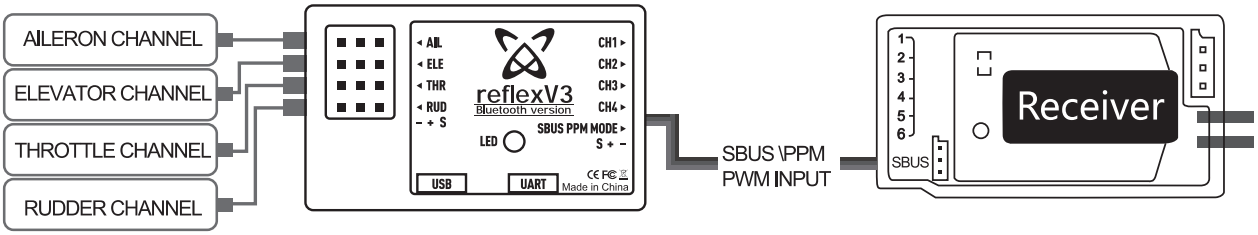
Note: The aircraft will maintain level flight with 50~60% throttle. The aircraft will climb under full throttle.

OFF-
Turns off all gyro functionality, the aircraft is flown completely manually when the gyro is off.

Optimized mode-
Utilizing advanced solid-state gyros, the Reflex system maintains aircraft attitude by counteracting inflight upsets- from gusts to crosswinds. With Reflex, even small aircraft will fly with the confidence of something much larger!

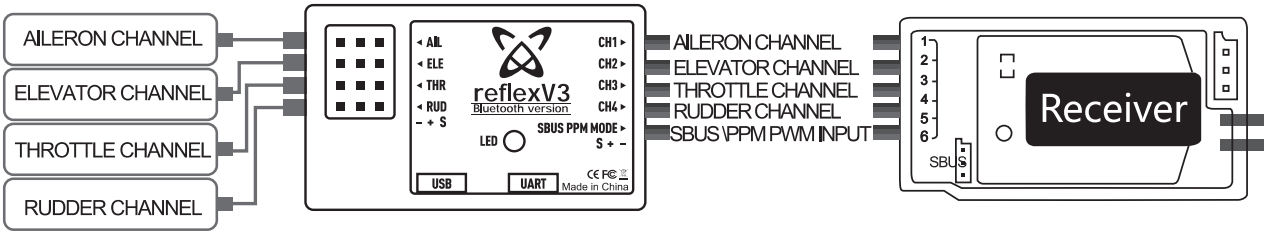
## Operation instructions

1.SBUS\PPM input: Connect the 3-wire cable into the port that is labelled SBUS\PPM. Ensure that the polarity of the cable is correct. The default channel assignment is aileron, elevator, throttle, rudder and mode switch (Note: Different aircraft may have different flight modes, refer to your aircraft manual for more information). If the channel assignment does not fit that of your transmitter system, change the channel order from your transmitter.



# Operation instructions

2.PWM: Connect the throttle and flight surface channels to their corresponding ports on the Reflex system. Connect a 3 wire cable from the channel that is controlled by your 3 position switch to the port labelled SBUS\PPM to control the gyro mode.




If you are using a 4 channel transmitter, use the included jumper to select between flight modes by plugging it into the “gyro mode input” port.

Note: The flight controller operates under stabilized mode by default. Plugging the jumper cable into the gyro mode input port changes the gyro mode to Optimized mode.

Operation: Turn on your transmitter first, then turn on your receiver. Set your aircraft down on a flat surface and have it remain level (the flight controller LED will flash rapidly). When the gyro is properly calibrated, the aileron servos will cycle 3 times in rapid succession; then the elevator will cycle 3 times in rapid succession- this signifies that the aircraft is ready for flight. Check that your 3-position switch is functional and that all channels are operating correctly.

NOTE:
GYRO LED ON- Stabilized mode
GYRO LED FLASHES SLOWLY- Gyro off
GYRO LED FLASHES RAPIDLY- Optimized mode

# Aircraft model update

1. Visit （ https://www.fmsmodel.com/page/reflex/ ）, download the Reflex 3.0 software.
2. Double click on "FMS PARAM V3.0" to initiate the software.
3. Connect a type-C cable from your computer to the Reflex type-C port.
4. Once successfully connected, the interface will show all downloadable aircraft options along with what is currently loaded on the flight control software.

5. Double click on the new aircraft you would like to load onto Reflex. The software will show "FMS param update", click "OK" and wait for the audible tone (please turn up your system volume). The audible tone indicates that the new aircraft setting have been successfully loaded.

6. Update complete:

# Aircraft model update

I. Software Download
1.1. Search for "FMSHOBBY" on the App Store/Google Play or scan the QR code in the Reflex V3 manual to download the app.

II. Launch the App and Enter the Home Page
1. After a 3-second display on the startup page, it automatically transitions to the home page.

2.1. On the home page, click the "Connect Now" or "Connect Later" button at the bottom of the screen.

Startup Page

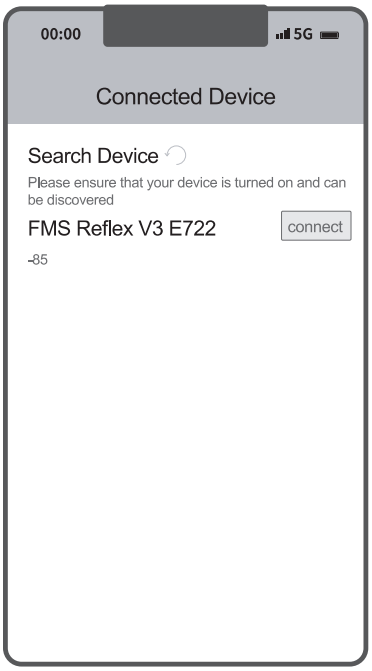
Home Page

2.2. If you click the "Connect Now" button, it will navigate to the "Bluetooth Device Search" Page.

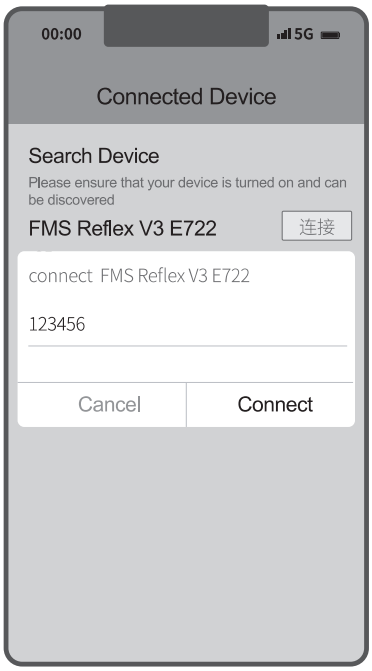
2.3. Click on FMS Reflex V3 E722（the last four bytes are different for each device） and enter the default connection password: 123456 to connect to the Reflex V3 device. It will then transition to the "Reflex Model Information" Page.
(Note: The device's Bluetooth name and connection password can be customized. The Bluetooth name supports customization of the last four bytes. For example, in FMS Reflex V3 E722, only the “E722”can be customized.)

2.4. If you click the "Connect Later" button, it will go to the "Reflex Model Information" Page.
(Note: If you click the "Connect Later" button, the information displayed on the "Reflex Model Information" Page is for demonstration purposes only and does not reflect real-time device information.)

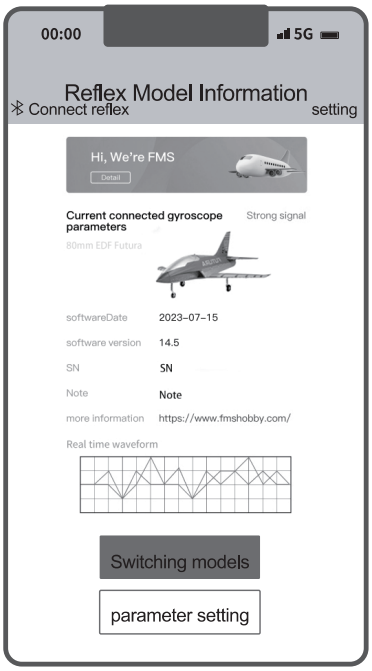
# Aircraft model update




Bluetooth Device Search Page




Enter password page

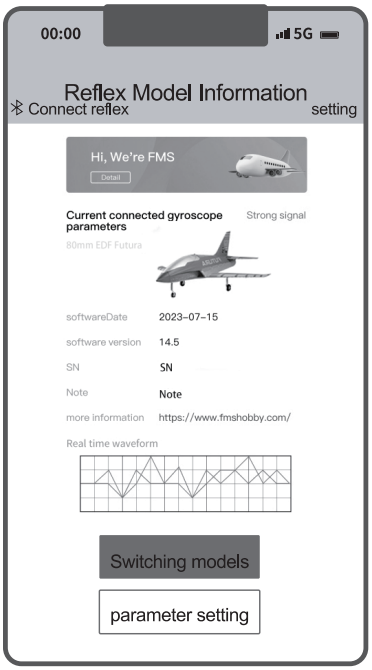



Reflex Model Information Page

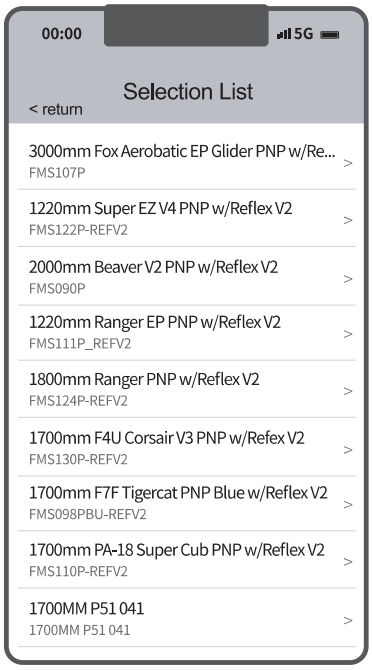
III. Model Switching & Parameter Setting

Model Switching (Only Applicable to FMS Models)

1. On the “Connected device” Page, click the "Model Switching" button at the bottom of the screen to enter the Selection List" page.
2. Choose the appropriate FMS model from the Selection List.
3. Click the "Synchronize Data" button on the popped-up "Device Information Page" to automatically synchronize preset parameters and navigate to the corresponding "Reflex Model Information" Page.




Reflex Model Information Page



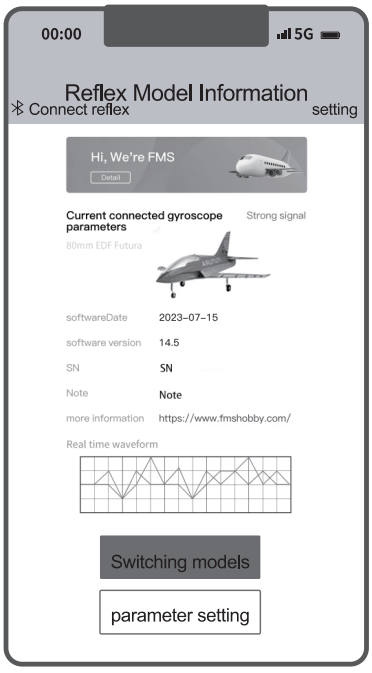

Selection List Page

Device Information Page

# Aircraft model update

Parameter Setting (Applicable to FMS and Other Models):

1. On the "Reflex Model Information" Page, click the "Parameter setting" button at the bottom of the screen to enter the "Parameter setting Page".
(Note: After clicking the "Parameter setting" button, the system will automatically determine the model category: FMS model or other model. It will then automatically navigate to the corresponding "Parameter Adjustment Page.")



Reflex Model Information Page

a. Adjustable parameters for FMS models: Aileron setting, Elevator setting, Rudder setting.

b. Adjustable parameters for other models: Gyroscope Setting, Aileron Setting, Elevator Setting, Rudder Setting.

2.After adjusting the parameters as needed

Click the "Save" button at the bottom of the page to synchronize the adjusted parameters and automatically return to the "Reflex Model Information"Page.

Click the "Reset" button to restores default parameter values.

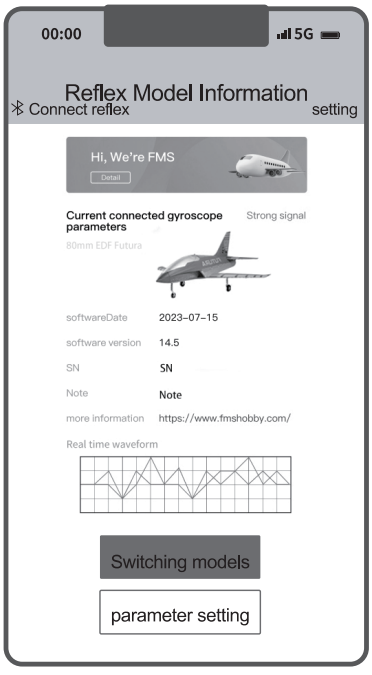
Click the "Back" button returns to the "Reflex Model Information" Page.

IV. Restoring Default Password & Modifying Device Bluetooth Name

Restore Default Password:

1. On the home page, click the "Connect Later" button to enter the "Connected device" Page.

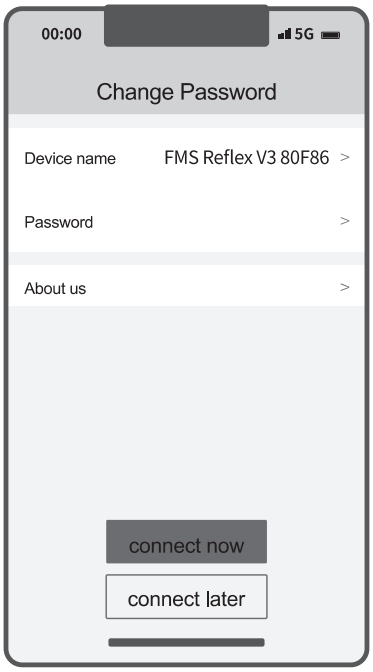
Home Page



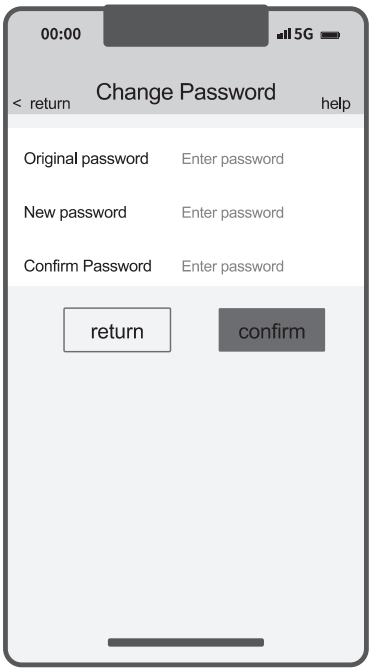
Reflex Model Information Page

# Aircraft model update

2. Click the "setting" button in the upper right corner of the "Reflex Model Information Page" to enter the setting page.
3. Click on the password to enter the password modification page. Then click the help button to view the graphic instructions for restoring the default password.

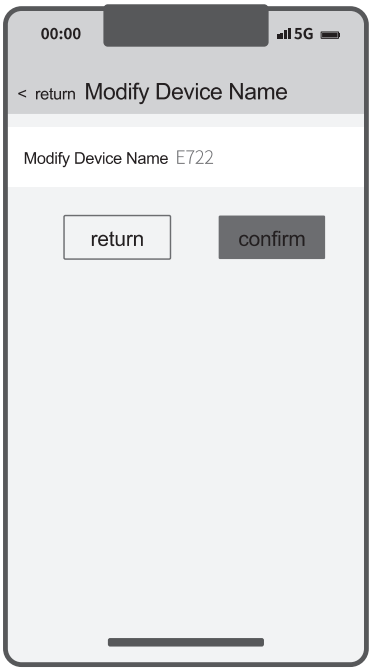



setting page




password modification page

Modify Device Bluetooth Name:
1. Click the "setting" button in the upper right corner of the "Reflex Model Information Page" to enter the setting page.
2. Click on the device name to modify the last four bytes. (Note: The Bluetooth name supports customization of the last four bytes only. For example, in FMS Reflex V3 E722, only the “E722”can be customized.)



## FCC Statement

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.

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## 锐飞介绍

1．采用32位ARM高速处理器。
2．采用3轴加速度与3轴陀螺仪传感器。
3．支持SBUS\PPM\PWM信号输入，并能自动识别，支持任何协议的4通道或者4通以上遥控器。
4.锐飞V3版本通电后可通过蓝牙连接手机APP, 解锁调参功能（非FMS机型亦可选购使用）。
5. 使用非常简单，通过电脑程序或者手机APP同步所需参数，连接锐飞V3与接收机，并设置好遥控器对应通道与遥控器正反以后即可使用。（注意：仅手机APP支持调参功能）

## 锐飞功能

锐飞系统含有初学者（自稳）、全手动（关闭）、和进阶（增稳）三种飞行模式，需要使用遥控器上一个3段开关来切换以上三种模式。3段开关中间默认为全手动（关闭）模式。

遥控器只有2段开关，锐飞系统默认只有初学者（自稳）、和进阶（增稳）二种模式。

初学模式：
专为初学者设计。此模式通过限定舵面角度，降低飞机的敏锐度，彻底杜绝因操作失误造成的翻滚和横滚，最大程度地保障飞行的安全性。当切换至此模式时，飞行员在不操作飞机的时候，飞机可以从任何姿态快速调平——稳定模式结合加速度传感器与陀螺仪数据，判断松开操纵杆时，使机体迅速恢复平衡稳定飞行。锐飞系统初学者模式是初学玩家最可靠的“副驾驶”！

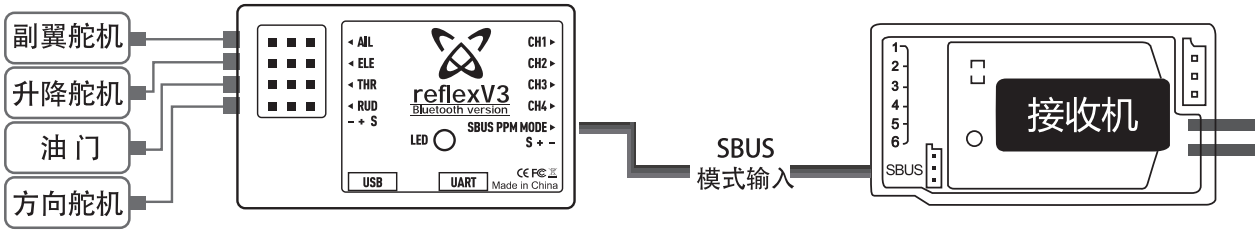
(注意：100%油门时，飞机保持向上爬升状态； 50% - 60%油门时，飞机保持平飞状态)

全手动模式：
锐飞系统的所有功能完全关闭，玩家依靠自己丰富的飞行经验和精准的控制度来完成各种飞行动作。

进阶模式：
专为初学者进阶设计。此模式利用先进的高精度陀螺仪，可实时降低阵风对机体影响，以保持稳定的飞行姿态。当切换至此模式时，陀螺仪可以在玩家没有新的操控指令时，短时间里辅助保持现有的飞行姿态。有锐飞系统保驾护航，即便是轻型小型飞机也可以信心百倍地畅享大型机的飞行乐趣。

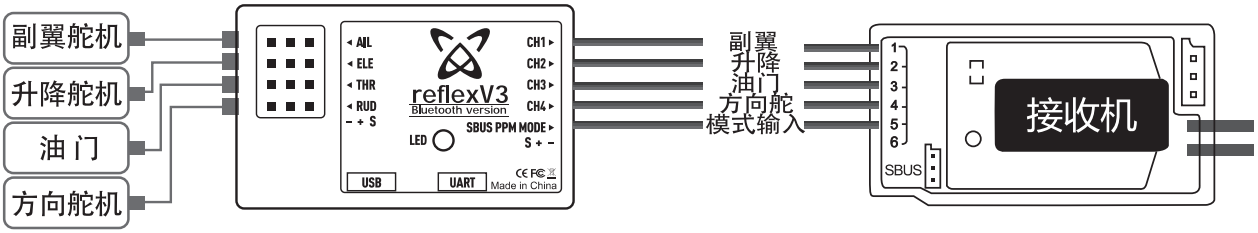
## 锐飞使用

1．SBUS\PPM方式的接收机，直接接入有SBUS\PPM的那条连接线，注意信号线的方向，注意遥控通道信号的顺序是副翼、升降、油门、方向、（模式控制默认5通道）（注意：带有起落架襟翼的情况下模式控制默认7通道），如果通道对应不一样，请通过遥控器更改为正确对应的顺序。



## 锐飞使用

2．PWM方式的接收机，将对应的连接线接入到接收机，将写有SBUS\PPM的那条连接线，接入到接收机的2段或3段开关输出通道上，这个开关用来切换飞行模式。




使用：遥控器开机，接收机通电，将飞机放置一个稳定的地方，保持飞机稳定不动（飞控LED快速闪烁），约3秒后飞机的副翼连续快速上下动作3次，后升降连续快速上下动作3次，表示上电自检通过，检查遥控器控制正反，检查模式开关动作，飞控上LED常亮表示在自稳模式，LED短闪烁表示在关闭模式、LED快速闪烁在增稳模式。

注意：飞行前必须了解模式开关对应的飞行模式。

## 锐飞程序更新(电脑版)

1．登陆网址 https://www.fmshobby.com/page/reflex/ ,下载 reflex 3.0 程序压缩包并将之解压至桌面。
2．双击“FMS PARAM V 3.0”启动程序。
3．C型(TYPE-C) USB线一端接入飞控一端接入电脑。
4．飞控成功接入电脑以后，电脑屏幕出现安装步骤示意图，示意图左侧为待选机型程序列表，右侧为飞控自带程序。

5.双击示意图左侧的相应待选机型程序，弹出“FMS param update”对话框，点击“OK”，听到电脑哔的声响（注意开大电脑音量），则程序更新成功。

## 锐飞程序更新(电脑版)

6.更新成功:

## 锐飞程序更新(手机蓝牙版)

一、软件下载

1.1.App Store/Google Play搜索“FMSHOBBY”或扫描锐飞V3说明书处二维码即可下载APP。

二、启动APP，进入home页

1.启动页显示3秒后，自动跳转到home页。

2.1进入home页，点击屏幕下方“现在连接”或“稍后连接”按钮。

启动页

home页

2.2 若点击“现在连接”按钮，则跳转至"蓝牙设备搜索页面"。

2.3点击FMS Reflex V3 E722（每个设备的最后四个字节是不同的）并输入初始连接密码：123456，连接锐飞V3设备。跳转至“锐飞机型信息页面”。

注意：设备蓝牙名称和连接密码支持自定义修改。其中蓝牙名称仅支持自定义修改后四个字节。例FMS Reflex V3 E722，仅支持自定义修改E722处字段信息

2.4若点击“稍后连接”按钮，则跳转至“锐飞机型信息页面”。

注意：若点击“稍后连接”按钮，则“锐飞机型信息页面”显示的信息仅为用于展示的预设画面，非实时读取的设备信息。

蓝牙设备搜索页面

输入密码页面

锐飞机型信息

三、切换机型&调整参数

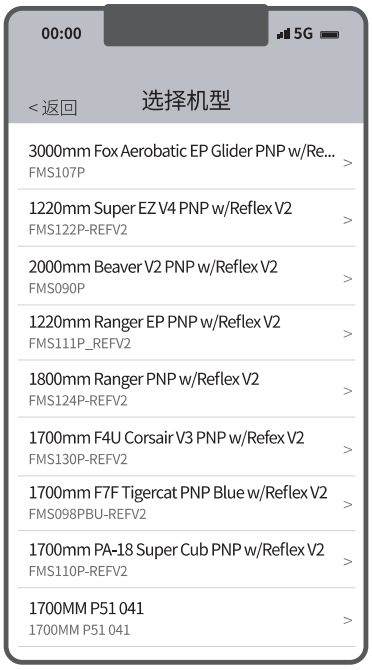
切换机型（仅针对FMS机型)

进入锐飞机型信息页面，点击屏幕下方“切换机型”按钮进入“机型选择列表页面”。

2.根据实际所需，在“FMS机型列表”中选择相应的 FMS机型。

3.在跳出的“设备信息页面”中点击“同步数据”按钮，即自动同步预设参数，并跳转至相应的“锐飞机型信息页面”。

锐飞机型信息




FMS机型列表

设备信息页面

# 锐飞程序更新(手机蓝牙版)

## 自定义参数（FMS机型与其他机型均可使用）

1.进入“锐飞机型信息页面”，点击下方“参数设置”按钮进入“参数设置页面”。

注意：点击“参数设置”按钮后，系统会自行判断机型类别：FMS机型/其他机型。并根据机型类别自动跳转至对应“调参页面”。

a.FMS机型可调参数项：副翼设置、升降设置、方向设置。

b.其他机型可调参数项：陀螺仪设置、副翼设置、升降设置、方向设置。）

2. 根据需求调整完参数后，点击页面底部“保存”按钮，即可同步所调参数并自动返回到“锐飞机型信息页面”

点击“重置”按钮，则恢复默认参数值
点击“后退”按钮，则返回“锐飞机型信息页面”

锐飞机型信息

四、恢复初始密码和修改设备蓝牙名称。
恢复默认密码
1.进入home页，点击“稍后连接”按钮，进入“锐飞机型信息页面”

home页

锐飞机型信息

# 锐飞程序更新(手机蓝牙版)

2..点击“锐飞机型信息页面”右上角处“设置”按钮，进入设置页面
3.点击密码，进入修改密码页面。再点击帮助按钮，即可查看恢复默认密码图文指引说明。

设置页面

更改密码

修改设备蓝牙名称
1.点击“锐飞机型信息页面”右上角处“设置”按钮，进入设置页面
2.点击设备名称，即可自定义修改。
　注意：蓝牙名称仅支持自定义修改后四个字节。例FMS Reflex V3 E722，仅支持自定义修改E722处字段信息。

## FCC ID

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However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
--Connect the device 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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment


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