

Six-Channel / Eight-Channel Intelligent Flight Receiver

Model Number: FR610 / FR810 / GPS





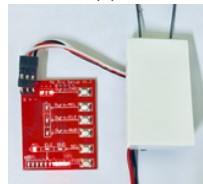
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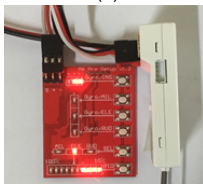
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Product parameters:

1. Application frequency: 2.40GHz - 2.48GHz
2. Application Protocol: Compatible with D8R open source protocol
3. Application Technology: 2.4G full frequency ACCST frequency hopping technology
4. Communication distance: >800 meters
5. Power Source: 3.3V - 7.4V
6. Size: Receiver 47mm*27mm*12mm / GPS 29mm*28mm*8mm
7. Weight: Receiver 9.8g / GPS 9g
8. Ch1 Aileron, Ch2 Elevator, Ch3 Throttle, Ch4 Rudder

Product Features:

1. Supports M6 Pro LED parameter setting card to facilitate field debugging.
2. Integrated 6-axis digital gyroscope, high-precision 3-axis accelerometer, 3-axis digital gyroscope, AESM6 system can help the aircraft fly steadily, AESM6 is a new generation of gyro control method which can automatically adjust the attitude in flight, both the gyroscope's stabilizing function and the gyro's attitude locking function combine perfectly to stabilize the attitude of the aircraft, but it does not affect the control and makes the flight smoother.
3. The new GPS control algorithm can help the aircraft not to fly out of the safe range (AKA Geo-fencing), and realize intelligent control functions such as manual throws, automatic return home beyond the flight distance, and automatic height hovering above launch site.
4. GPS auxiliary function: If you have connected and setup the GPS correctly and the aircraft is flying in balance function mode and the flying height is greater than approximately 16 meters, the user can cease joystick input for 6-9 seconds to allow the GPS and FC to automatically take over the flight. In this mode the craft will maintain the current heading, keep your preset altitude and continue in automatic flight, when you exceed the preset safety distance the craft will automatically return and hover until the user gives stick inputs again which will disable the auto function and return manual control to the pilot.

2. K2: Set the front and back of the aileron of the flight control gyroscope and press it once and twice.

3. K3: Set the up/down direction of the fly gyro and press it once or twice.

4. K4: Set the direction of the flight gyroscope positive and negative, press once and reverse to change once.

5. K5: Set flight control PID and horizontal vertical correction or GPS flight parameter setting, switch by long press for 3 seconds, or short press to select.

6. K6: Corresponding to the function selected by K5, setting related parameters and parameter values, corresponding to 10 LED lights, corresponding to 1~10 values.

Function settings:

1. K1 button corresponds to 3 LEDs, K1 sets the flight control installation mode (see the corresponding flight control instructions), the type of the aircraft, the LED indication LED of the installation mode does not blink, and the aircraft type LED indication LED blinks. The two modes are switched by pressing and holding the K1 key for 3 seconds to distinguish between blinking LEDs.

Installation mode: LED does not blink

1. Horizontal front face	2. Horizontal reverse	3. Vertical Front Dressing	4. Vertical face facing
5. Horizontal front loading	6. Horizontal reverse mounting	7. Vertical front loading	8. Vertical reverse mounting

Aircraft type: LED blink

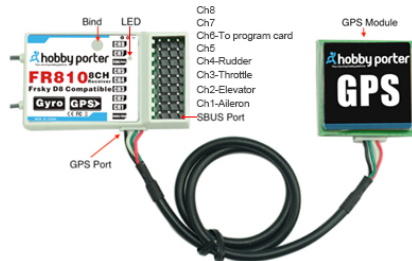
1. Fly control off	2. Fixed wing	3. Flying wing	4. V tail
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set the corresponding control channel. See the attached table for details.

12. Airplane type mode: Supports a variety of fixed-wing, flying-wing, V-tail, within the receiver. Please note that the remote controller can maintain ordinary fixed-wing mode, multi-stage filtering algorithm is applicable to various model.

13. Receiver installation: The receiver has 8 installation methods (head forward or backward in any way), which can be easily adapted to various aircraft structures, and can be set by setting cards. For details, see the setup card instructions.

Receiver Instructions:



Receiver Bind:

First, press and hold the bind key. The LED firstly lights up for 1~2 seconds and then flashes at high speed. At this time, the code key can be released, and the receiver enters the code state.

Start the remote control to start the bind function.

The LED lights up when the receiver bind is successful.

The receiver must be powered off again before normal use.








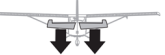

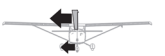

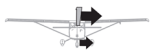
Product use:

When the remote control is turned on.

After the receiver is powered on and the receiver remains stable

The correct response of the aircraft gyro:

Note: The correct setting of the aircraft before takeoff is closely related to the success of the flight. Before taking off, please carefully check whether the operation of the rocker control and gyro control is exactly the same as described above.

GYRO Control Direction Test		
	Aircraft movement	GYRO Response
Aileron		
Aileron		
Elevator		
Elevator		
Rudder		
Rudder		

Note 3: In order to achieve a good use effect of the flight control, please pay attention to some reminders.

1. Ensure that the aircraft has no abnormal resonance or only slight vibration when the throttle is pushed to 80%.

If there is vibration, the smaller the better (gyroscope is sensitive to vibration), otherwise it will affect the flight effect. Resonance or vibration is usually caused by motor or paddle imbalance.

2. The aircraft power must be guaranteed to be above 1:1. If the power is not enough, when the aircraft climbs in the automatic take-off, it is prone to problems.

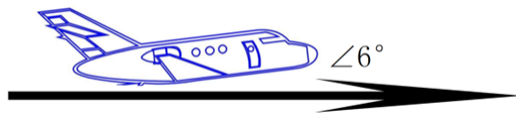
3. The installation of the flight control must be consistent with the fuselage, and the fit between the flight control and the fuselage must be well-damped.

Large aircraft or oil machine can use professional shock-absorbing brackets, do a good job of vibration reduction, you can protect. Flight Control's reliable work.

4. The correct setting is very important. Before taking off, you must repeatedly confirm that each axis of the aircraft moves and the gyroscope can.

Make the right response.

Aircraft level correction:



Before using the balance mode and GPS function, the flight controller must do level correction.

Method: Put the plane in the same horizontal posture as shown above, $\angle 3-9^\circ$, then start horizontal correction to complete the correction

(Refer to setup card instructions to start correction).

5. GPS hand-throw function: When you connect the GPS module and set the parameters correctly, the remote control's mode switch (see the attached table for details) is in the balance function position, and the aircraft is quickly thrown forward horizontally (Note: speed and level). The receiver detects that the GPS speed has continuously reached 6 km and then automatically starts the aircraft power, maintains the heading, sets the altitude to fly out, flies to the safe distance, and automatically returns to altitude and hover.

6. Stabilization function: In flight, it automatically corrects according to the attitude of the aircraft to ensure flight stability and does not interfere with the operation of the joystick.

7. Balance function: As long as the joystick is use during flight, the aircraft will automatically balance the flight, and can use the DR function of the remote control to set the size of the joystick to achieve a variety of flight modes.

8. The gyroscope is turned off: The gyroscope can be turned off by a switch on the remote controller to achieve the feeling of multiple flight experiences. See the attached table for details.

9. One-Key Rescue Function: Once you have properly set the One-Key Rescue button, flip the switch once in any flight attitude and the aircraft will immediately return to the balanced attitude (if you have connected the GPS module and set up the parameters, the receiver will automatically take over the aircraft control and return, hover this is known as the rescue state. Once within range the pilot can give any stick input to return manual control of the aircraft.






10. Lost-control protection: When the remote controller is out of range, the receiver automatically triggers a key rescue function to ensure the loss of control security. After any signal is normal, any stick input will release the rescue state. If you connect the GPS module, the GPS and FC automatically takes over the control of the aircraft and returns, and automatically circles the flight after it returns to the point of departure. The pilot can resume control with any stick input at this point.

11. Total sensitivity control: In-flight sensitivity can be adjusted by the VR knob on the remote control. Note that before taking off,

2. The K2, K3 and K4 keys correspond to the positive and negative adjustments of the aileron, elevation, and direction of the gyroscope respectively. The adjustment is simpler, The axis that needs to be adjusted is tapped at the corresponding key to adjust it positively and negatively.





3. The K5 and K6 buttons are used in conjunction with each other. K5 is the function selection button. K6 is the parameter setting button. You can set the PID sensitivity plus the balance vertical correction and GPS parameter settings. Press and hold the K5 button for 3 seconds to switch and pass the corresponding K5 button. Whether the LED flickers to judge, GPS setting status K5 corresponds to The corresponding LED will blink.

PID sensitivity and horizontal vertical correction: LED corresponding to K5 does not blink

Aileron sensitivity adjustment, press K5 ->	Lifting height adjustment, press K5 ->	Direction sensitivity adjustment, press K5 ->	Horizontal correction, press K5 ->	Vertical correction, press K5 ->
				
Aileron Sensitivity: Adjust by K6 3 LEDs for 30%	Lifting sensitivity value: Adjust by K6 3 LED light corresponds to 30%	Direction sensitivity value: Adjust by K6 3 LED lights correspond to 30%	Long press K6 for about 3 seconds to complete horizontal correction	Long press K6 for about 3 seconds to complete vertical correction

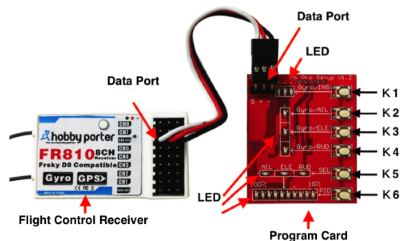
When entering the balance or vertical correction, if you need to correct long press the K6 button for 3 seconds (all LEDs corresponding to K6 flash from fast to slow)

GPS parameter setting: LED corresponding to K5 blinks

GPS minimum height adjustment, press K5 ->	GPS maximum return distance, press K5 ->	GPS circle radius, press K5 ->	The lowest stall speed of the aircraft, press K5 ->
			
Minimum height setting: Press K6 to adjust 3 LEDs to correspond to 30 meters	Maximum return distance setting: Press K6 to adjust 3 LEDs to correspond to 150 meters (3*50)	Circle radius settings: Press K6 to adjust 3 LEDs to correspond to 30 meters	Stall speed setting: Adjust by K6 4 LED lights corresponds to 40 km

K6 corresponds to the LED, an LED represents a value, please note that the corresponding values of the three LEDs written in the above table are converted.

for about 6-10 seconds, when the LED is always on and the elevator is stepped up and down 2 times, it indicates that it is ready. When GPS is connected, the receiver is powered on and keeps the receiver stable for about 6-10 seconds. When the LED is on, and the elevator moves up and down at the same time twice, the elevator lifts a certain angle (prompt) and enters GPS searching state (in this case the throttle and lift are locked), when the GPS positioning is successful and stable to reach 6 satellites lock the elevator will go back to normal (accelerator and rudder unlock), the aircraft is ready.



CH7-Rescue Key	CH6 Sensitivity control	CH5 Flight mode	The receiver responds to the operating state
-100% action			Immediate automatic balance (GPS return)
	-100% ~ 100% (Minimum ~ maximum position)		Total sensitivity of aircraft follows changes (0 ~ 200%) Midpoint is 100% (normal sensitivity)
		Maximum position 100% Middle position 0 Minimum position -100%	Gyroscope stabilization Automatic Balanced Flight (GPS) Gyro off

Remote control switch control corresponding function table:

Note 1: When there is no CH5 input, this default is the minimum position. CH5 cooperates with different functions to switch. Without CH6 input, the default total sensitivity is 100% (normal sensitivity)

Note 2: The flight control provides 8 installation modes to facilitate the application of aircraft of different types. Correct setting is very important. After the flight control is installed, the first step is to set up the installation mode. Next, set the gyro positive and negative. When flying, please assess whether the surrounding environment is safe.

Introduction:

1. M6 Pro LED setting card supports Hobbypoter FR series flight control, with receiver, flight control and other parameter settings, you can easily set the flight control parameters, GPS parameters.
2. A data port (communication port), connected to the standard PWM interface, the maximum input power supply 7V, set up first connected to the flight control of the designated data port (communication port), and then fly control power-on.
3. After power-on, the communication succeeds in the LED status indication. The first 3 seconds of LED water flow is displayed and the flight control parameters are read to the setting card. After 3 seconds, the LED displays the relevant flight control parameters, and the flight control parameters can be set by pressing the key.

4. After the power is turned on, the LED status of the communication fails. All the LEDs are blinking. This indicates that the communication with the flight controller has failed. Check whether the port is connected to the designated port of the flight controller. After the correct port is connected, re-power on.

Key Description:

1. K1: You can set the flight control installation mode or the aircraft type mode. You can switch by pressing and holding for 3 seconds, or you can press it short to select.

GPS parameter control instructions:

Minimum height: Controls the aircraft's automatic flight at the set altitude, defaulting to 60 meters.

The farthest distance: When the GPS function is activated, the aircraft is in the state of GPS automatic flight. Take the departure point as the starting point, and determine the distance between the current aircraft and the starting point. If it is greater than the set maximum distance, the aircraft will automatically start the return journey and fly back to the starting point. And automatically enter the hovering state, the default is 180 meters.

Hovering radius: When entering the hovering state, the aircraft will control the flight within the set spiral radius. Note: due to wind and other factors, the radius of the flight may have a certain deviation, the default is 60 meters.

Stall speed: When entering the GPS automatic flight, the speed of the flight will automatically maintain the set stall speed, the default is 40 kilometers.






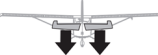



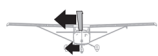
The above parameters are set by default in the safe range. If you want to change the parameters, please pay attention to the national safety regulations and regulations.

Regular aircraft movement check:

One-click rescue aircraft action response check:

Press the rescue button to observe whether the aircraft immediately enters the balanced flight mode and lifts the elevator automatically, and the elevator slowly reduces the output, and finally returns to the original flight mode.

Rocker operation and aircraft servo correct response:

Control Direction Test		
	Joystick Direction	Servo Response
Left Aileron		
Right Aileron		
Down Elevator		
Up Elevator		
Left Rudder		
Right Rudder	