

**FLYING 3D** **FY-X6**

The Flying X6 Quadcopter Flight Manual





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**FLYING 3D RC**

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read this manual to fully understand the functions of this X6 and the operation of its transmitter. Please read our flying tip sheet at the end of this manual. Should you have questions please mail us for more details.

**Disclaimer**

Please read the instructions carefully before using this product, you are deemed to have read this manual at least once before using this product. This product is not suitable for minors under 18 years old. This product is Multi-Rotor Quadcopter with Remote Control System. The System can control the Quadcopter's attitude with highly targeted and high precision position control. Under the normal power and power supply circumstances, this Quadcopter can provide you an excellent flight experience and flight performance. However, even though the safety of the flight control system has been optimized and upgraded, we still suggest you to remove the propellers during debugging or upgrading. Also, please make sure you fly the Quadcopter away from crowds, flammable items and anything could damage. Enjoy your flying time and please fly responsibly and with respect to other people's privacy.

Our company will not undertake the responsibility for any loss, personal injury, accident caused by any of the below reasons:

- The damages caused by using the product under any drink, drugs, drug anesthesia, dizziness, fatigue, nausea, and other physical or mental condition.
- The personal injury and the property damage, etc. that is caused by the users with ill intention or compensations caused any accident that leads to mental damage.
- Assembly or manipulation by not following the correct guidance of the product manual.
- The defective operation damages caused by modification in any way.
- The damages caused by the user's operation and bad judgment.

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**Always Follow the Safety Guide**

- Don't fly at night or in bad weather, in rain or thunderstorms as this can cause erratic operation or loss of control. It's irresponsible and dangerous to do it.
- Make sure the heading direction of all motors is in accordance with the operating instructions. If incorrect please adjust the direction first.
- The shutdown sequence must be to first disconnect the Quadcopter battery then to shut off the transmitter. If the transmitter is switched off while the receiver is still powered, it may lead to uncontrolled movement or the engine starting and this can lead to an accident. Please be sure to always follow this sequence otherwise you may cause unwanted issues.
- Always remember that the 2.4G RC system could affect a plane or the car in your vicinity when you power up the transmitter.
- Do not operate in the following places:  
Near other sites where other radio controlled activity may occur.  
In the vicinity of people or public highways.  
Over any water mass where passenger boats may be present.  
Near high tension power lines or communication broadcasting antennas as interference could cause loss of control.  
Quadcopter interference of your Radio Control System in your Quadcopter could result in serious injury.
- Never operate outdoors when it's raining or rain is forecast or fly when visibility is limited. (Should any type of moisture (water or snow) enter the components of the system, erratic operation and loss of control may occur.)

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**Contents**

- Introduction to the Quadcopter and its functionality, and all the parts
- Introduction of the transmitter and the button of the transmitter
- How to mount the propeller and the landing stand
- Compass calibration and other calibrations
- Flying mode, flying function introduction
- How to control the Flying X6 Quadcopter including changing modes, using the one key return and the ACC (headless) function
- How to start and launch the Quadcopter
- How to control the Flying X6 Quadcopter
- The low battery alarm and auto low battery return functions
- The transmitter
- The specification of the Quadcopter, battery and transmitter

Appendix: Flying tips for the X6 Quadcopter

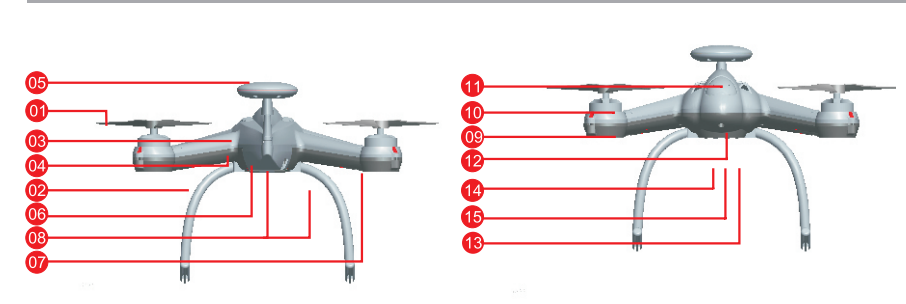
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**9. Calibrating and starting flying with no need to contact the computer.**

- USB hub available, no driver required.
- Automatically firmware upgrading online.
- System one key recovery.
- Flying area restriction the height and distance can be auto controlled.

**10. Flying X6 Quadcopter Parts**



Number	Name	Unit	Number	Name	Unit
FY-X6-01	The propellers	PC-3500		The motors	Motor 300
FY-X6-02	The landing stand	FY-X6-10		Motor 300	Motor 300
FY-X6-03	Upper body shell	FY-X6-11		The GPS module	
FY-X6-04	Bottom body shell	FY-X6-12		The LED lights	
FY-X6-05	GPS shield	FY-X6-15		Battery	
FY-X6-06	USB interface	FY-X6-16		Charger	
FY-X6-07	FR2 GPS Shield				
FY-X6-08	FR2's c				

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**2. Introduction to the remote control transmitter and the switches and buttons on the transmitter**

The 2.4GHz radio band has a completely different behavior than previously used lower frequency bands. Keep always your Quadcopter in sight as any large object can block the RF signal and lead to loss of control and danger. The 2.4GHz RF signal propagates in straight lines and cannot get around objects in its path. Never grip the transmitter antenna when operating a Quadcopter as this degrades significantly the RF signal quality and strength and may cause loss of control and danger.

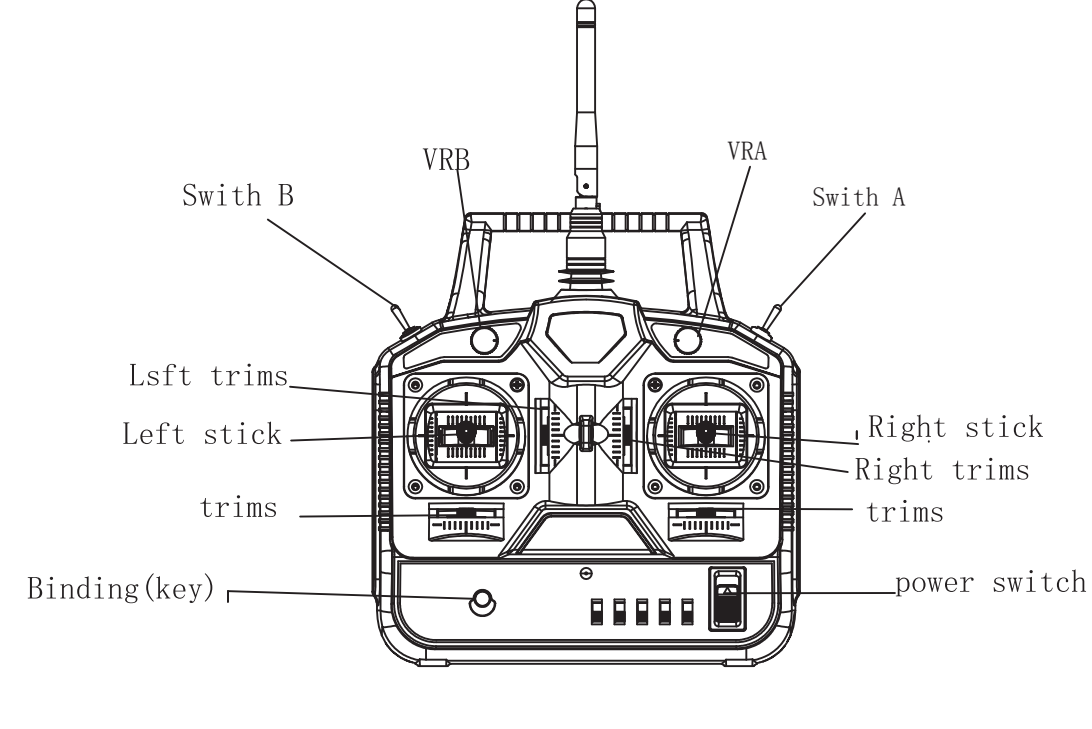
This radio system works in the frequency range of 2.405 to 2.475GHz. This band has been divided into 82 independent channels. Each radio system uses 16 different channels and 160 different types of hopping algorithm. By using various selection times, hopping schemes and channel frequencies, the system can guarantee a jamming free radio transmission.

This radio system uses a high gain and high quality multi directional antenna. It covers the whole frequency band. Associated with a high sensitivity receiver, this radio system guarantees a jamming free single radio transmission.

Each transmitter has a unique ID. When binding with a receiver, the receiver saves that unique ID and can only accept from that unique transmitter. This avoids picking another transmitter signal and dramatically increases interference immunity and safety.

This radio system uses low power electronic components and a very sensitive receiver chip. The Modulation uses intermittent signal transmission thus reducing even more power consumption. Consequently, this radio system uses only a tenth of the power of a standard FM system.

**2.1 Main controlling panel**



1. Switch A: three steps switch with 3 positions (1,2,3): Upper position for Stated mode; Middle for altitude mode; Bottom position for GPS mode.

2. Switch B (SW1): three steps switch with 3 positions (1,2,3): Upper position for normal flying; middle to trigger ACC (headless) function; bottom position to trigger automatic return.

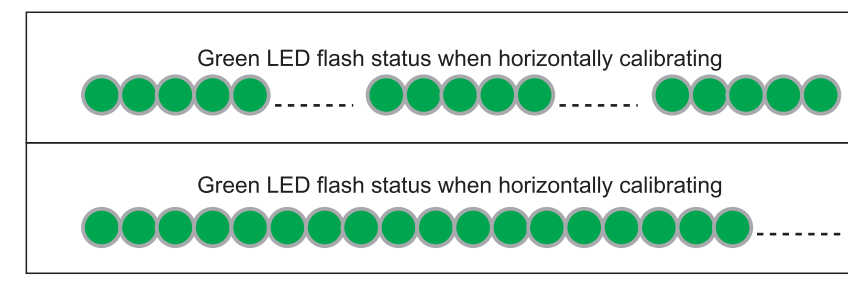
3. Control Knob: VRB for Gimbal or servo rudder controlling.

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**3. Calibration Process**

- Turn on the transmitter, keep the throttle at the lowest neutral position and then connect the system power supply.
- Quickly move the mode switch A fully up and down a few times (see switch SW4) until the LED is continuously rapidly flashing green. The LED is located at the bottom of the aircraft as shown on section 1.
- Put the Quadcopter in a horizontal position and apply a uniform and continuous rotation in one direction until the green LED stops flashing.
- Turn the Quadcopter head down, keep the throttle vertical and apply a uniform and continuous rotation in one direction until the green LED stops flashing.
- Now the LED become blue, put it horizontal and cut off the power for a second and turn on again.



**4. Flying mode/flying function introduction**

	Stated mode	Height mode	GPS mode
The transmitter stick steering	Linear	Linear	Linear
The throttle lever	Push lever to middle can keep height/altitude positive Max. (auto return) Max. can keep the speed.	Push lever to middle to lock position/altitude. Push lever Max. can keep the speed.	Push lever to middle to lock height. Push lever Max. can keep the speed.
Position lock	NO	NO	YES
Limiting speed	unlimited	NO	Max 4m/s
Self-compassment	support	support	no report
Flying pace	Unlimited	Unlimited	Max 5m/s

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**5.1 Flying modes**

**5.1.1 Stated Mode**

In the stated mode, Quadcopter will not fly automatically, but also lock the flying height when the throttle lever is in the middle. When the stick is push forward, the Quadcopter ascends when the stick is pushed back the Quadcopter will descend, when the signal is received again, users can control the Quadcopter again.

**5.1.2 Height Mode**

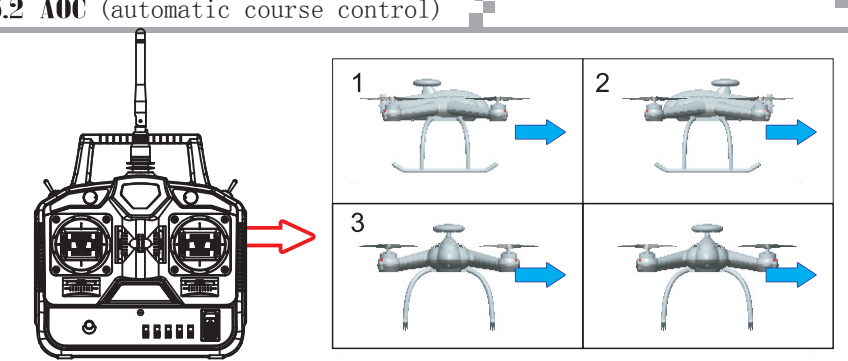
Under this mode, Quadcopter will not only keep steady automatically, but also lock the flying height when the throttle lever is in the middle. When the stick is push forward, the Quadcopter ascends when the stick is pushed back the Quadcopter will descend, when the signal is received again, the user can control the Quadcopter again.

**5.1.3 GPS Mode**

The Flying X6 Quadcopter provides users with a more simple and easy flying experience, when the steering stick is pushed to the middle, the position of the Quadcopter will be locked automatically and maintain high-precision hovering. It also performs a stable hover in left and as it has been designed for effective wind-resistance. In this mode, the user can control the flying speed accordingly. With the stick in neutral, it can reach 5m/s speed.

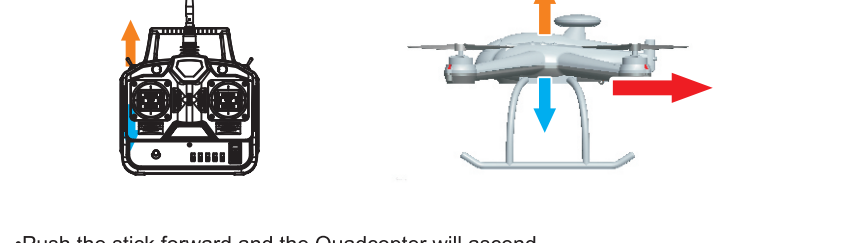
For the satellite GPS, you must ensure that the satellite has been found, otherwise the Quadcopter will not be able to hover.

**5.2 Alt (automatic course control)**



By Switch the SW1 to middle position, you can turn on the ACC function, the course of the aircraft can be controlled by this function. The forward direction of the aircraft has nothing to do with its actual course. This is often known as "headless" flying.

**6. Controls**



Push the stick forward and the Quadcopter will ascend.  
Push the stick backwards and the Quadcopter will descend.  
Under the Height or GPS Mode:  
a. The Quadcopter will automatically lower and hold its altitude if the sticks are centered at Height or GPS mode.  
b. Pushing the throttle stick above the centered position will prevent the Quadcopter taking off.  
\*We suggest that you push the throttle stick slowly to resist the Quadcopter from sudden and unexpected ascent.

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**7. How to start and launch the Quadcopter**

Power on the transmitter, set all buttons in the original positions. Wait until transmitter connects with a satellite and the quadcopter connection of 8 satellites or above are recommended for a perfect performance in GPS mode.

Push the throttle like this to launch the motor. Start the flight.

**8. How to Land the Quadcopter**

Push the throttle like this to stop the motors.  
Disconnect the battery.  
Power off the transmitter.

**9. The low battery alarm and auto low battery return functions**

**9.1. Preset Low Voltage & Timer Return Flight**

A low voltage is preset to indicate the time for user to start return flight. When the quadcopter's battery voltage is lower than the preset low voltage, the battery sign on the transmitter will flash with an alarm. In this case, you are advised to start to fly this quadcopter back to home point for ensuring enough power in the course of return flight.

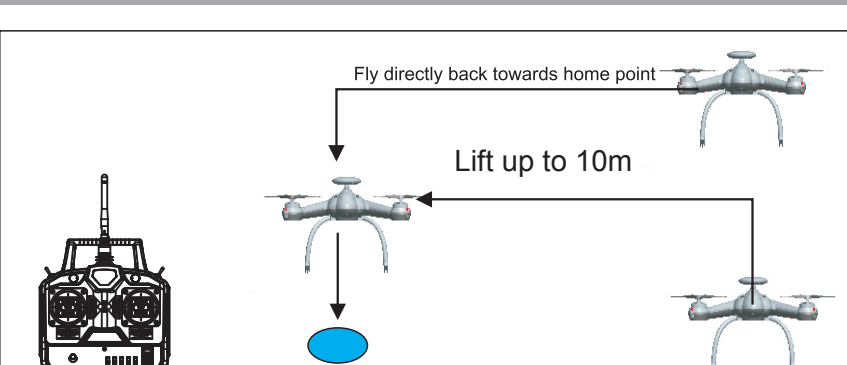
**9.2. Preset Return Voltage & Auto Return**

The preset return voltage serves as a final warning, and it is the voltage lower than the preset low voltage when it occurs, the quadcopter will completely take over your control and launch its procedure for auto return to the home point.

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**9.1 The Auto Return Procedure**



1. Fly directly back towards home point.  
2. Lift up to 10m.  
3. Fly directly back towards home point.

The auto return works in the below procedure:  
1. Hover & Fly for 3 seconds.  
2. Lift up to 10m.  
3. Fly directly back towards home point.

**10. Specification of Quadcopter and battery and transmitter**

Item	Specification
Altitude	Height (Battery & Propeller Included): 3150 Max Altitude (Steady Fly): +10200'
Max Fly Angle	30°
Max Fly Speed	45°
Max Altitude (Descent Speed)	965'
Max Flight Speed	GPS Mode 5m/s Stated Mode 10m/s
Diagonal Length	350mm
Power Consumption	300mW
Flight Time	6-8min/20m
Take-Off Weight	480g
Operating Temperature	-10° to +50°
Supported Battery	7.4V 1000mAh
Battery Type	Lipo
Capacity	1000mAh
Charging Environment Range	0° to 40°
Charging Environment Range	20° to 40°
Operating Frequency	2.405 to 2.475GHz
Communication Distance (Open Area)	More than 2000m
Receiver Sensitivity (HFPER)	-105dBm
Working Current/Voltage	120mA 5.1V/VA7S
Battery	1S/VA7S
Channels	161 channels

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**Appendix: Flying Tips for the FYX6 Quadcopter**

We want you our valued customer to get the best out of your flying experience with the FYX6 Quadcopter, please read the FYX6's flying tips. The FYX6 is a great flying machine look after it, fly safe and it will give you endless hours of pleasure.

- Always fly with the sun behind you to avoid getting the sun in your eyes and losing sight of your FYX6.
- Never fly the Quadcopter behind you or above you, make sure it is always in front of you.
- Try and find a large grass field, take off gently.
- When flying any new machine look to the rule of fly low, fly safe, fly slow, fly slow and fly small. Begin with small areas, focus on controlled movements.
- You've seen some films of it, but remember we were beginners too at one point. When you fly in small areas your muscle memory develops and you can learn throttle management when your hands get the right feel of the Remote Control. So be patient and take a slow-down when you fly. Learn about the location you are in.
- At any time when you're resting, respect other people's privacy.
- Don't over charge your battery as it will degrade over time, resulting in lesser flight times, corrosion and they will puff up and end up causing serious damage to you and others.
- Always store the batteries at half charge or discharge them for storage mode if you don't plan to fly for a few weeks.
- fly to the maximum, back and forth side to side nose up, tail in. Once you know these movements properly, move on to repeating the same movements with nose in, tail out. Remember your rudder, ailerons and elevators are reversed when the Quadcopter is taking off. When you are at it at low altitudes remember to return to the rudder with ailerons to bank, turns and other advanced maneuvers.
- Don't over rate the rate that may trigger other items.
- Don't fly indoors unless you are really skilled.
- Don't over rate the batteries apart from us supply, always use 1:1C battery.

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**Thanks again for choosing the Flying X6 Quadcopter it is a remarkable flying machine**

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