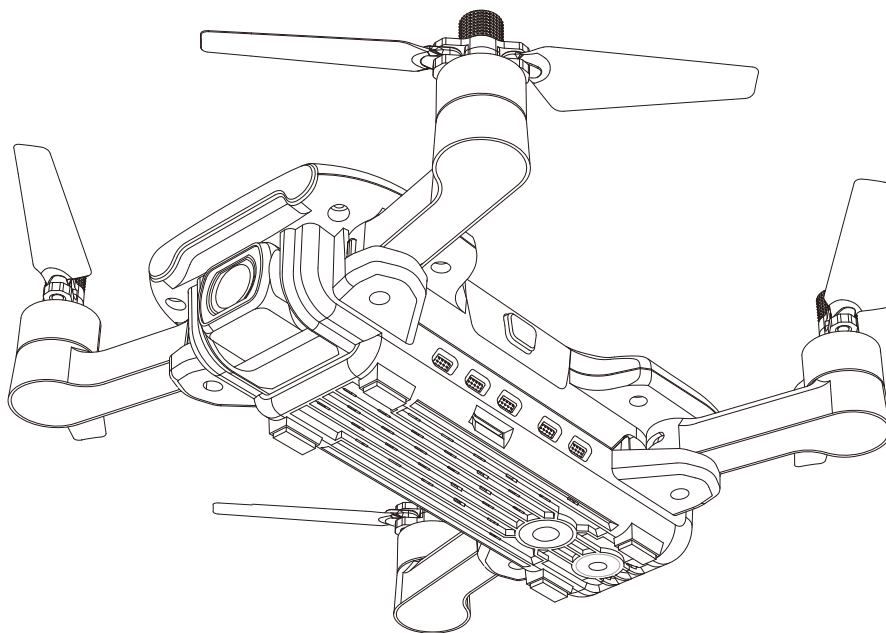


# Bugs 7

## User Manual



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## Flight

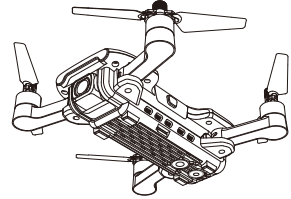
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## Product Profile

This section mainly introduces functions and installation guidelines of B7 and lists the components of the aircraft and remote controller.



## Introduction

- The Bugs 7 aircraft is equipped with optical flow and GPS system. It can hover and fly stably indoor and outdoor. It has automatic return home function and other easy-to-use intelligent flight functions, such as orbit flight, follow-me and waypoint flight. Bugs 7 can shoot 4K HD videos.
- The transmitter is equipped with a complete set of function keys, it can realize various operations and settings of the aircraft and camera. Not only can display real-time HD pictures on the mobile device through the APP, but also display information such as flight parameters on the device screen. The folding transmitter improves users' operation experience. The pull-out stand is easy to carry and for storage. What's more, the gimbal can adjust manually the camera shooting angle before flying.
- The maximum flight speed of Bugs 7 is 32km/h.

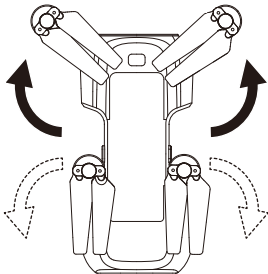
## Prepare Your B7

### Unfold the aircraft

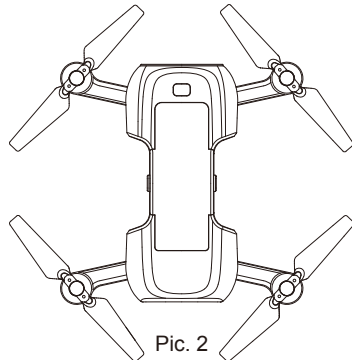
The Aircraft is folded inside the package. Follow the steps as below to unfold the aircraft.

Step 1: Unfold the front arms (Pic. 1);

Step 2: Repeat again to unfold rear arms (Pic. 2).



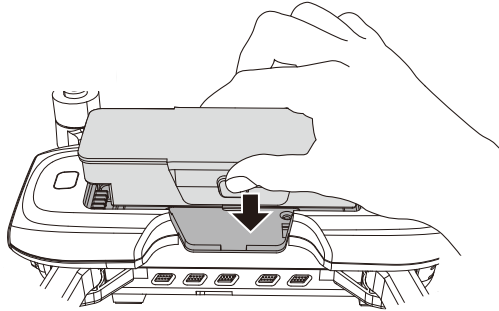
Pic. 1



Pic. 2

## Battery installation

Insert the fully charged battery into the aircraft battery box (see as the picture), ensure the battery install correctly.



**⚠ Attention:** The battery should be installed firmly, failure to do so may affect the flight safety of your aircraft. The aircraft may crash due to power-cut during the flight.

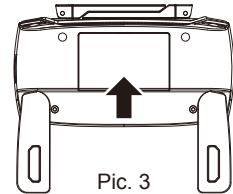
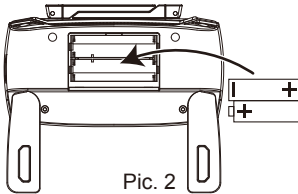
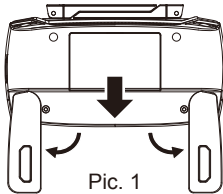
## Prepare the Remote Controller

### Install the battery of remote controller

Step 1: Unfold the hand sticks and open the battery door (Pic. 1);

Step 2: Install 2\*AA batteries into the battery compartment according to the given polarity (Pic. 2);

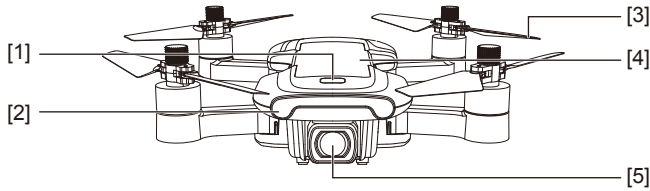
Step 3: Close the battery compartment (Pic. 3).



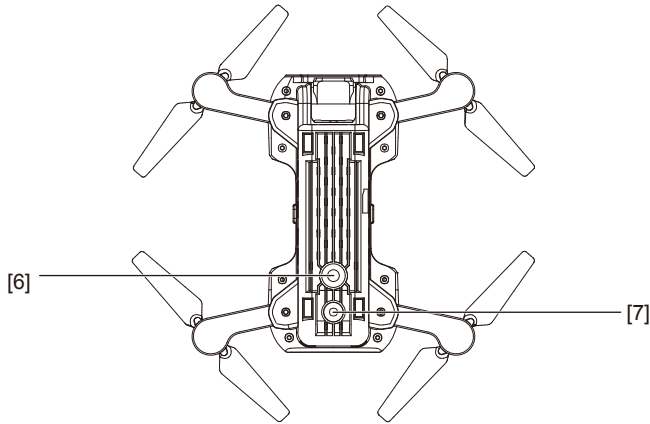
- Insert batteries with correct polarity.
- Non rechargeable batteries are not to be charged; the transmitter need 2\*AA batteries for work.
- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Rechargeable batteries are to be removed from the aircraft before being charged.
- Rechargeable batteries are only to be charged under adult supervision.
- Exhausted batteries are to be removed from the aircraft.
- The supply terminals are not to be short-circuited.



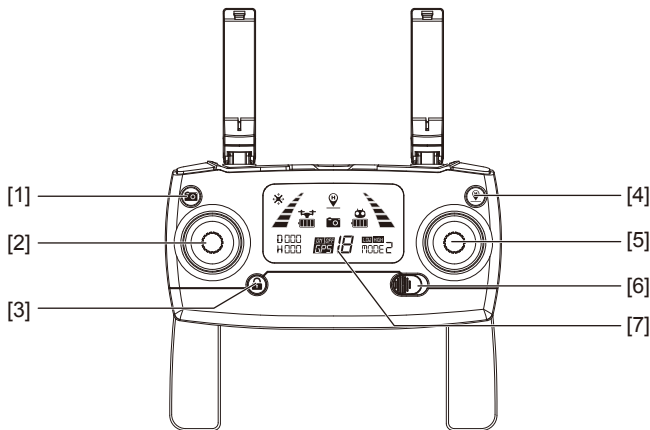
## Major Parts & Functional Switch



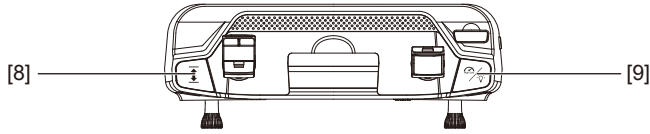
- [1] Power switch
- [2] Drone's status indicator light
- [3] Propeller
- [4] Battery
- [5] Camera



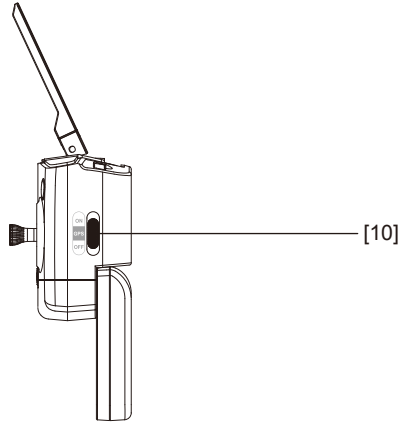
- [6] Bottom lights
- [7] Optical flow camera



- [1] Photo/Video
- [2] Left stick
- [3] Unlock/Lock
- [4] One-key RTH
- [5] Right stick
- [6] Power switch
- [7] LCD display



- [8] One-key takeoff/  
One-key landing
- [9] Short- press for the optical  
flow switch  
Long- press for the fast-slow  
speed switch.

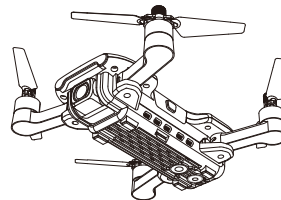


- [10] GPS Switch

## Aircraft

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This section introduces functions and features of the B7.



## Flight Modes

The following flight modes are available in Bugs 7.

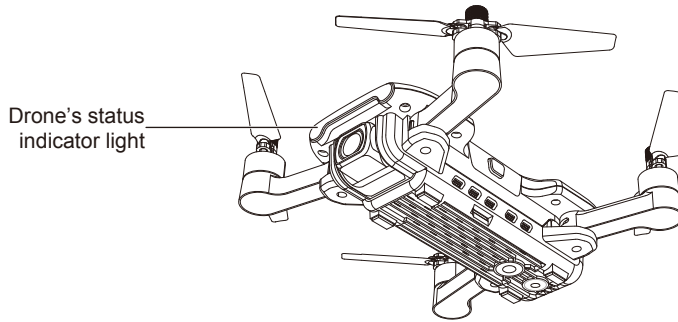
GPS mode:

- When the drone is in GPS mode, it can receive the GPS signal to realize accurate hovering.
- If the GPS signal is weak, the drone will enter into altitude-hold or optical flow position mode. (For specific situation, please refer to APP status bar)
- Please make the drone land ASAP when the GPS signal is poor lest any accidents.
- By the way, please note do not fly the drone in any weak GPS signal place or narrow space place lest any flight accidents.

Optical flow positioning mode:

- If the drone does not receive GPS signal or GPS turned off and its altitude is within 3 meters, it automatically enters into the optical flow positioning mode. It utilizes the optical flow positioning mode to hover stably.
- If the drone does not receive GPS signal or GPS turned off, what's more its altitude is beyond 3 meters, it will enter into altitude-holding mode, cannot realize accurate hovering. In the situation, the user should be have some basic operations, recommended not to fly the drone.

## Aircraft Status Indicator Lights






### Aircraft status indicator


No.	Indicator status	Meanings
1	Indicator yellow light flash fast.	Aircraft 2.4GHz disconnected.
2	Indicator yellow green red light flash by turn.	Aircraft is in initialization detection status.
3	Indicator yellow light stays on.	No GPS signal, aircraft is in gesture mode.
4	Indicator green light stays on.	Good GPS signal, aircraft is preparing for GPS mode.
5	Indicator green light flash fast.	Aircraft is in gyroscope calibration status.
6	Indicator yellow light flash.	Aircraft is in compass horizontal calibration.
7	Indicator green light flash.	Aircraft is in compass vertical calibration.
8	Indicator red light flash slow.	Aircraft is nearly low voltage, 1/6 battery level left.
9	Indicator red light flash fast.	Aircraft is in low voltage, only 1/8 voltage left.
10	Indicator red light flash one time then stop for 1.5 seconds.	Something wrong with the gyroscope.
11	Indicator red light flash twice then stop 1.5 for seconds.	Something wrong with the barometer.
12	Indicator red light flash three times then stop for 1.5 seconds.	Something wrong with the compass.
13	Indicator red light flash four times then stop for 1.5 seconds.	Something wrong with the GPS module.
14	Indicator red light flash six times then stop for 1.5 seconds.	Something wrong with the vision positioning module.

## Return to Home (RTH)


The Return-to-Home (RTH) function brings the aircraft back to the last recorded Home Point.

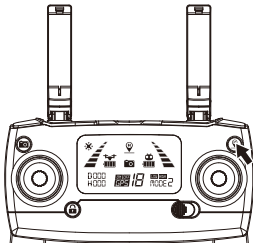
There are 3 types of RTH: smart RTH, low battery RTH and failsafe RTH. This section describes these 3 scenarios in detail.

	GPS	Description
Home Point		If a strong GPS signal (satellites over 7) was acquired before takeoff, the Home Point is the location from which the aircraft launched. The GPS signal strength is indicated by the GPS icon (  ). The aircraft rear indicator lights will blink rapidly from yellow color to green color when the home point is recorded.

- 
- During the return home flight, the drone will fly straight to return home point and cannot avoid obstacles. Please make sure there are no any obstacles on the path.
  - Aircraft can not return to the Home Point when the GPS signal is weak or unavailable.
  - Aircraft will stop ascending and immediately return to the Home Point if user moves the throttle stick in the aircraft reaches 15 meters altitudes or beyond during Smart RTH.
  - If there is no GPS signal and the remote controller signal lost for more than 6 seconds, the aircraft can not Return-to-Home but descend slowly until land to the ground and lock the aircraft.

### Aircraft status indicator

When the GPS signal is available (more than 7 satellites is presented), use the RTH button  on the remote controller (Pic. 1) or tap the RTH button in the “M RC PRO” APP (Pic. 2) and then follow the on-screen instructions to initiate Smart RTH. During the smart RTH, you can use the remote controller to guide the aircraft around obstacles. You can press the RTH button again to exit RTH procedure and regain control of the aircraft.






Pic. 1




Pic. 2

### Low battery RTH

The low battery level failsafe is triggered when the intelligent battery is depleted to a point that may affect the safe return of the aircraft. Users are advised to return home or land the aircraft immediately when prompted.

1. If the rear indicator light flash slow, the battery icon in transmitter LCD screen is , with transmitter has “DIDI” sound. As only the aircraft is beyond 30 meters altitude or 100 meters distance, the aircraft will return home automatically. As long as the aircraft is in 100 meters distance, the user can cancel the return via “” button.
2. When the aircraft rear lights flash slowly, battery icon  is shown on the remote controller or on the “M RC PRO” APP. And steady “beep...beep...beep” sound is heard. At this moment, the aircraft will automatically return to the Home Point if the flying altitude is beyond 15 meters or the flying distance against the home point is beyond 15 meters. If the aircraft flying altitude is less than 15 meters or the flying distance is less than 15 meters, the aircraft will automatically land to the ground.

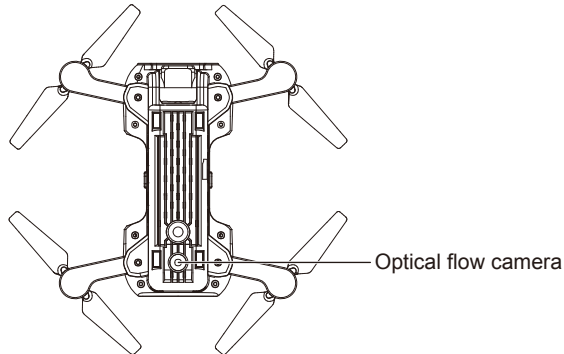
 Attention: When the aircraft is automatically return home with Low Battery RTH function activated, you can not cancel the RTH procedure by pressing the RTH button to regain control of the aircraft.

### Out of connection return home function

The GPS signal is good (the No. of GPS satellites is more than 7), the compass is working and the home point has been recorded successfully, if the control signal continuously interrupted for longer than 6 seconds and APP control turning off, the flight control system will take over the transmitter control, controlling the aircraft to fly return home point. If the control signal is restored during returning home, the returning home flight will continue unless the user cancel it by transmitter's return home button and get back the aircraft's control right.

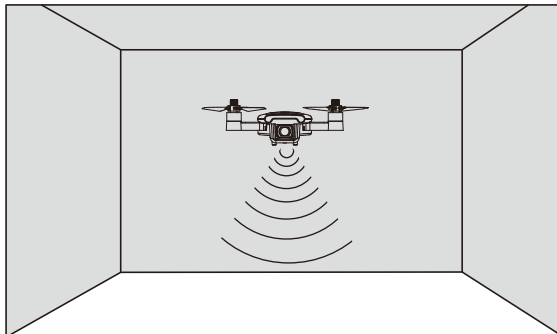
## Vision System


The optical flow system consists of optical flow lens modules. The optical flow system is an image positioning system, obtaining the aircraft's position through the optical image thereby ensuring the the accurate positioning and safe flight.



### Vision Positioning System function

The Vision Positioning System is typically used in indoor environment when GPS is weak or unavailable. It works best when the aircraft altitude is less than 3 meters.

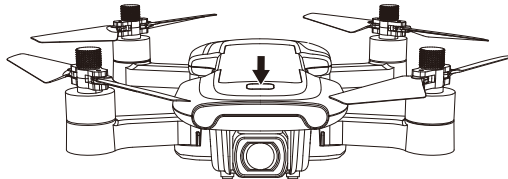


-  The measuring precision of optical flow system will be affected easily by the light strength and the features of object surface texture. Once the optical flow is unavailable, the drone will enter to altitude-holding mode automatically. Please be cautious in as following situations:
1. Fly fast at an altitude below 0.5m.
  2. Fly over monochrome surfaces (like pure black, pure red, pure red and pure green).
  3. Fly over strong light reflective surfaces or surfaces prone to reflection.
  4. Fly over water or transparent object surfaces.
  5. Fly over moving object surfaces (such as crowds, swaying juggles and glass).
  6. Fly over an area where light changes dramatically and rapidly.
  7. Fly over surfaces extremely dark ( $\text{lux} < 10$ ) or extremely bright ( $\text{lux} > 10,000$ ).
  8. Fly over surfaces without clear textures.
  9. Fly over surfaces with highly repeating textures (small grid brick in the same color).
  10. Fly over surfaces that are tilting over 30 degrees.
  11. Flying speed should be controlled not to be too fast. When the aircraft is 1 meter against the ground, the flying speed should not be over 5m/s; When the aircraft is 2 meter against the ground, the flying speed should not be over 14m/s.

- Keep sensors clean at all times.
- The vision system is only effective when the aircraft is within the altitude range of 3 meters.
- Make sure that the light is bright enough and the surfaces is with clear textures so that the vision system can acquire the movement information through recognizing the ground textures.
- The vision system may not function properly when the aircraft is flying over water, low light ground and surfaces without clear patterns or textures.
- If the light is dim, please turn on the optical flow supplement light.

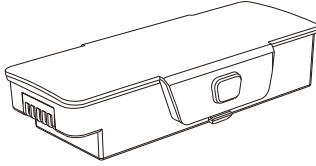
## Aircraft Power Switch

Short-press the aircraft's power button, it will turn on, in the same time, the aircraft will have power-on sound and indicator light stays on. Long-press the power button for 3 seconds, the aircraft will turn off and indicator light will turn off too.

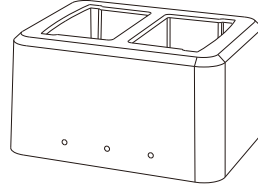


## Aircraft Battery

- Made by high-energy battery cells;
- Standard battery capacity is 7.6V 1500mAh.



Battery

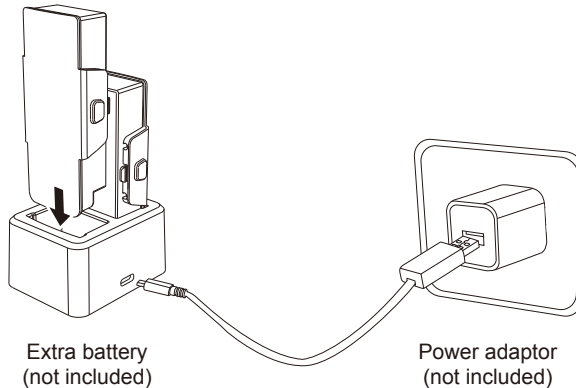


Charger

### Charge the aircraft battery

- Please charge the battery fully before using it.
- Be sure you use the officially supplied USB charging cable to charge.
- The charging time is about 2.5 hours.

\*This aircraft charging data is based on 5V 2A power adaptor. Different types power adaptor and power device will affect the charging time. It is recommended that 5V 2-2.1A adaptor be used for charging.



Extra battery  
(not included)

Power adaptor  
(not included)

- ⚠
- Need adult supervision when this aircraft is being played by children.
  - Only batteries of the same or equivalent type as recommended are to be used.
  - Insert batteries with correct polarity.
  - Rechargeable batteries are to be removed from the aircraft before being charged.
  - Rechargeable batteries are only to be charged under adult supervision.
  - Exhausted batteries are to be removed from the aircraft.
  - The supply terminals are not to be short-circuited.
  - The charging line to be used with the product should be regularly examined for potential hazard, such as damage to the cable or cord, plug, enclosure of other parts and that in the event of such damage, the product must not be used until that damage had been properly removed.
  - Please charge the battery about 1 hours after flight to save.
  - If no play for long time, recommend to use out and recharge the battery one time per month lest the battery damaged for over discharge.



## Attach and Detach the Propellers

### Blade assemble and disassemble

#### ●Attach propeller A:


Put the propeller with marking 'A' into the clockwise rotating motor shaft (the side marked A should be upwards). Then, put the silicone rubber ring into the center bore of the propeller. Last, choose the propeller screw with dot and put it onto the motor shaft; tighten the screws by counter-clockwise.

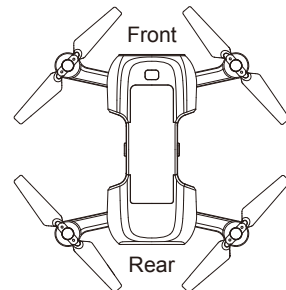
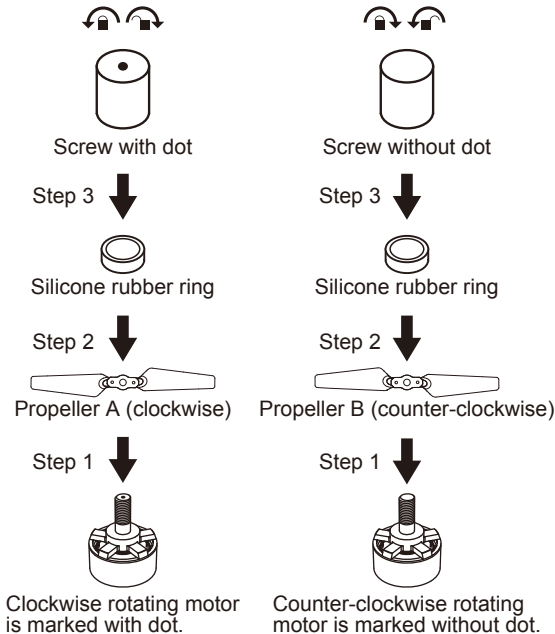
#### ●Attach propeller B:


Put the propeller with marking 'B' into the counter-clockwise rotating motor shaft (the side marked B should be upwards). Then, put the silicone rubber ring into the center bore of the propeller. Last, choose the propeller screw without dot and put it onto the motor shaft; tighten the screw by clockwise.

#### ●Detach the propellers:

Hold the aircraft brushless motor and unscrew the screw without dot by counter-clockwise (screw with dot should be rotated by clockwise) to take apart the propeller.

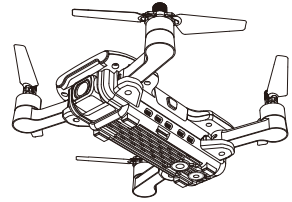
 Attention: Please install all fittings step by step as below pictures. Keep in mind that the propellers are distinguished by A & B mark and propellers screws are distinguished by dot mark. please pay attention to your rotation direction.



- 
- Please make sure that the clockwise and the counter-clockwise propellers are installed on the correct motors, because the aircraft will not fly normally for wrong propellers installation.
  - Be aware of the sharp edges of the propellers. Handle with care.
  - **ONLY** use the factory approved propellers. **DO NOT** mix propellers types.
  - Stand clear of the motors and **DO NOT** touch the propellers when they are spinning.
  - Check that the propellers and motors are installed correctly and firmly before every flight.
  - Ensure that all propellers are in good condition before each flight. **DO NOT** use aged, chipped, or broken propellers.
  - To avoid injury, **STAND CLEAR** of and **DO NOT** touch propellers or motors when they are spinning.
  - **ONLY** use designated propellers for a better and safer flight experience.
-

# Remote Controller

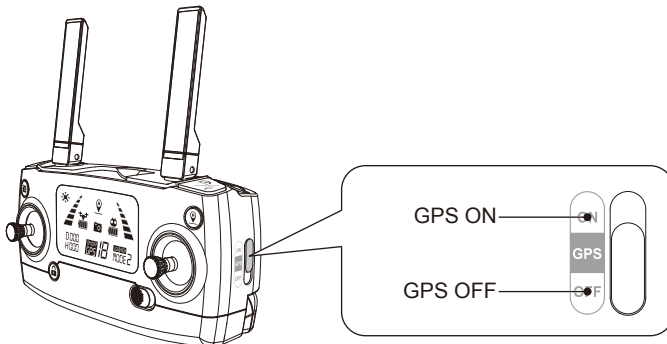
This section describes the features of the remote controller, including the instruction on controlling the B7.



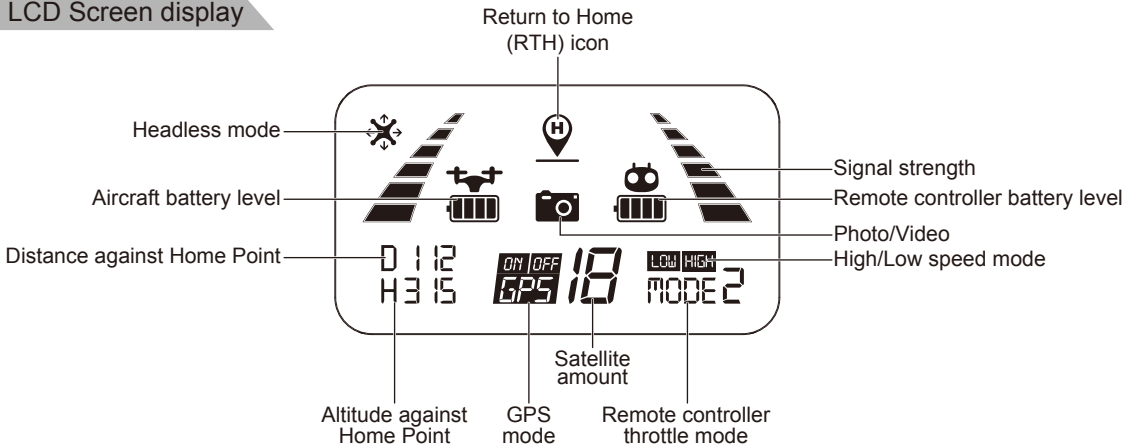
## Remote Controller Functions and Status

### Flight mode switch

Choose the flight mode by switching the GPS button to ON/OFF position. The on-working flight mode “<sup>GPS</sup>GPS” is shown on the LCD display.

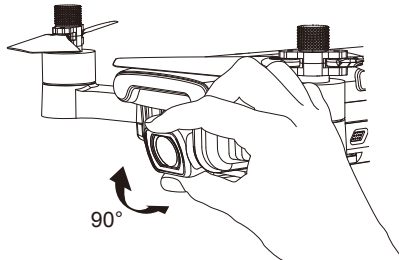


## LCD Screen display



## Adjust the gimbal camera angle manually

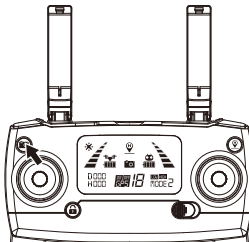
By rotating the drone's camera manually, the shooting angle of gimbal camera will be adjusted. Please adjust the angle according to the using situation.




## Flight mode switch



Short-press the button indicated as below, the camera icon "📷" on the LCD screen flashes once, the camera takes one photo;

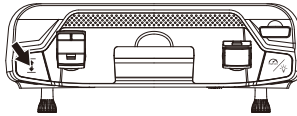
Long-press the same button, the video icon "📹" on the LCD screen flashes slowly, the camera is taking video. Long-press again will exit shooting.




-  Attention: When the aircraft is not inserted with TF card or the TF card is malfunction, photos and videos taking can not be done by pressing the button of the remote controller, but by the icon on the APP interface.

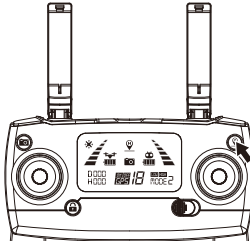
### One-key takeoff/landing

- After the B7 unlocked, short-press the “” button (indicated as below), the aircraft will automatically take off and hover at 1.5m altitude.
  - When the aircraft is flying, short-press the “” button (indicated as below), the aircraft will automatically land on the ground.
- In drone's landing automatically, press any joystick, the drone will exit the mode.






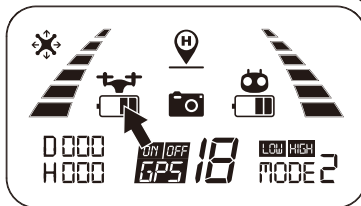
### One-key RTH button

- Press the “” with the buzzer having “Di”, it means the auto- return home is on.
- The aircraft will return to lasted home point. Press the button shortly again, the return home will be closed.

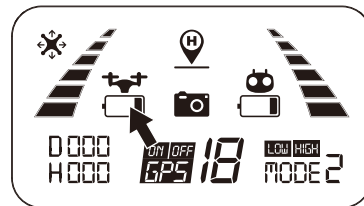


### Low battery warning

- If the rear indicator light flash slow, the battery icon in transmitter LCD screen is “”. As only the aircraft is beyond 30 meters altitude or 100 meters distance, the aircraft will return home automatically. As long as the aircraft is in 100 meters distance, the user can cancel the return by “”.
- When the battery icon “” is shown on the LCD screen (Pic. 2) with steady “beep ...beep” sound, it means that the aircraft battery is in low voltage. At this time, the aircraft front lights glow solid and rear lights flash rapidly. The aircraft will return when the altitude is over 15m or the distance is over 15m; if either the flying altitude or flying distance is less than 15m, the aircraft will land to the ground.




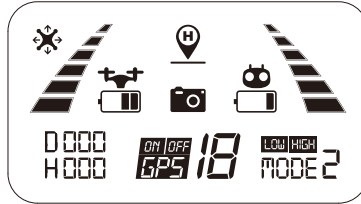
Pic. 1






Pic. 2

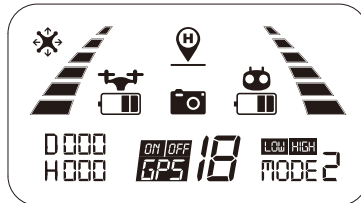
### Remote control low voltage warning

When the “” icon appears on the LCD screen and the remote control emits “beep beep” sound, it means that the remote control battery is nearly out of power. Please change new battery for the remote control.



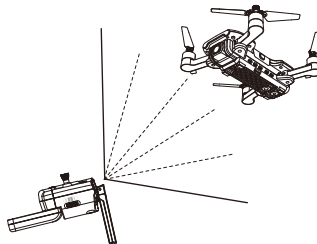
### Signal strength indicator

- Signal strength bar “” shows the strength of the received signal. The more, the better.
- When the strength bar “” changes from weak to strong circularly, it means that the remote controller is under signal connection status.
- There are 2 situations that the strength bar “” is less than 2 grids or no displaying with steady long beep sounds.
  - 1) The distance between the aircraft and the remote controller is too far causing a weak signal.
  - 2) The battery is removed after the aircraft connects to the remote controller.



### Optimal transmission zone

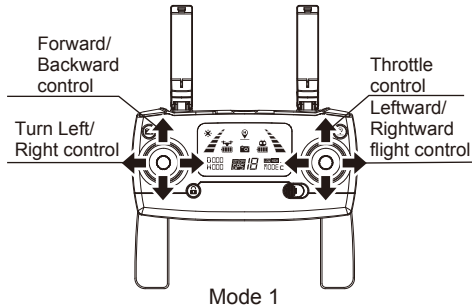
To obtain a satisfied flight experience, please make sure that your B7 is flying ahead of the remote controller and no obstacles between the aircraft and the remote controller.



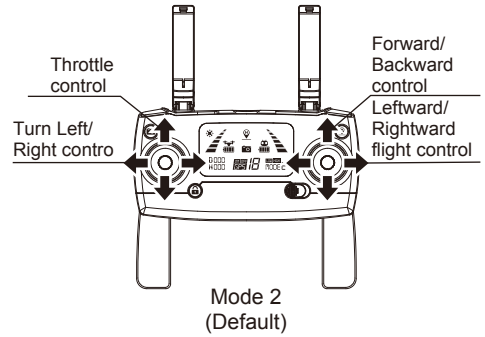
Optimal transmission zone

## Throttle Control Stick Mode

### Throttle mode switch





Mode 1

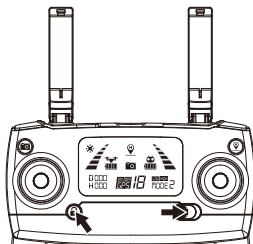
Mode 2  
(Default)

Mode 1: The right stick serves as the throttle.  
 Mode 2: The left stick serves as the throttle.

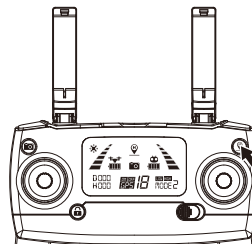
- The remote controller is set at Mode 2 by default.

### How to change throttle mode


- Step 1. Keep pressing the red button “” and turn on the remote controller, the remote controller is under signal connection status (Pic. 1);
- Step 2. Keep pressing the RTH button “” for 3 seconds to choose the throttle control mode (Pic. 2). The throttle control mode will change according to each press. The mode number is shown on the LCD screen. The throttle control mode is set at mode 2 by default.



Pic. 1

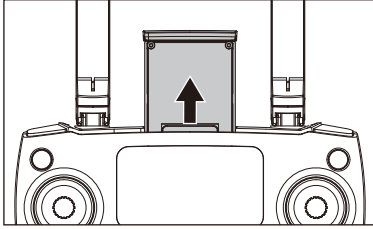


Pic. 2

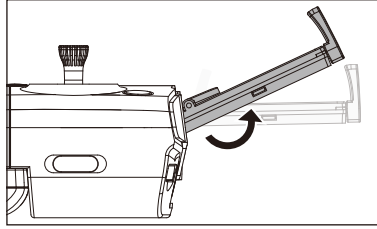
 Attention: To change the stick mode of the remote controller, please make sure that the remote controller is under signal connection status (the indicator light keep flashing). If not, the stick mode could not be changed.

## Install the Mobile Phone Holder

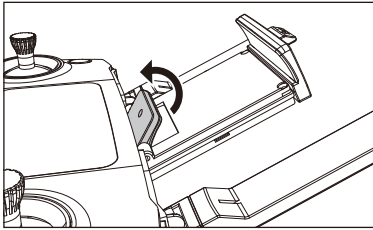
1. Pull out the mobile phone holder upwards completely (Pic. 1);
2. Tilt the holder 30 degrees towards you and then you will hear a click sound (Pic. 2);
3. Rotate and fix the support board in place (Pic. 3);
4. Adjust the mobile phone holder upward or downward according to the size of your mobile phone (Pic. 4).



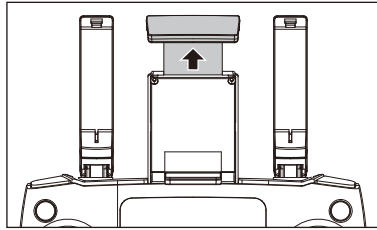
Pic. 1



Pic. 2



Pic. 3



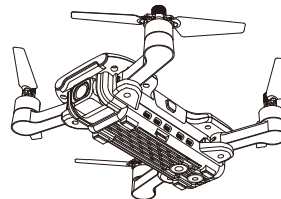
Pic. 4



## APP Download & Installation

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This section introduces how to download the “M RC PRO” APP and connect with mobile device.




## FPV Real-time Image Transmission Software “M RC PRO”

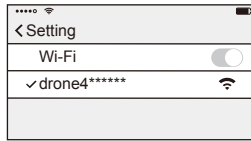
### Where to download “M RC PRO” APP

- For Apple IOS system, please turn to Apple store, search “M RC PRO” or scan the QR code at right side to download the software.
  - For Android system, please turn to Google play, search “M RC PRO” or scan the QR code at right side to download the software.
- Or scan “MJXRC.NET” QR code to download the software.



## How to link the “M RC PRO” to the camera

Power on the aircraft, then enter phone setting option. Turn on WiFi, find “drone4\*\*\*\*\* ” on the list and connect it. When “” legend is shown, it means WiFi connection is successful. Exit settings and tap “M RC PRO” APP at your mobile device.



Connect WIFI

## Photos and video saving feature

1. If the camera is without TF card, videos and photos will be saved at the APP.  
(The image definition of video and photo is APP received image quality).
2. If the camera is with TF card, videos and photos will be saved at the TF card.
3. Videos and photos in the TF card can be downloaded to the APP.

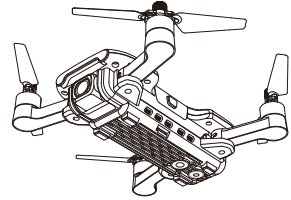


Tips: Only mobile phones that support 5G WIFI (802.11.ac) can make FPV connections.

# Flight

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This section introduces safe flight requirements and basic aircraft operations.



## Flight Environment Requirements

1. Please don't fly in such bad weather conditions as high temperature, snow, strong wind ( $\geq$ level 5), rain or fog.
2. Always choose a wide open area for every flight. Tall structures and large metal structures may affect the accuracy of the onboard compass and GPS system.
3. Well away from people and property. Never fly directly over people or animals.
4. To minimize interference, please do not fly the aircraft in locations near power lines, base stations, electrical substations and broadcasting towers.
5. Aircraft and battery performance is subject to environment factors like temperature. Be very careful when flying over 6KM above sea level since the performance will be affected.
6. Your B7 cannot use GPS within the polar regions.

## Flight limits and GEO zones




Abide by all laws and regulations when flying your B7. Flight limitations are applied by default to help users operate this product safely and legally. Flight limitations include altitude limits, distance limits and GEO Zones. Altitude limits, distance limits and GEO Zones function concurrently to manage flight safety when operating in GPS Mode.

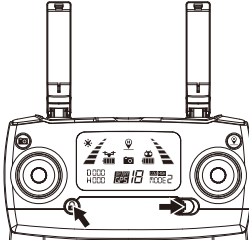
## Pre-flight Checklist

1. The aircraft, remote controller and mobile device are full charged;
2. The propellers are installed correctly;
3. The arms and propellers are unfolded;
4. Ensure the camera lens are clean;
5. Only use the designated or approved parts by manufacturer. Unauthorized parts or parts not from certified manufacturers may cause malfunction or safety issues.

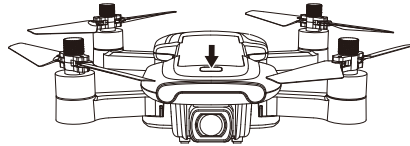
## Aircraft Operations

### Signal connection between the aircraft and remote controller

- Keep pressing the red button “” and turn on the remote controller (Pic. 1). The remote controller makes 2 beep sounds, and the indicator light “” keeps flashing; the remote controller is under signal connection status.
- Power on the aircraft (Pic. 2). The aircraft will make beep sounds with front and rear lights flashing and will automatically link to the remote controller. Once the remote controller sends out a long beep sound and the indicator light of the remote controller turns from flashing to solid on and the signal icon “” is shown on the LCD screen, it means that signal connection is succeeded.



Pic. 1



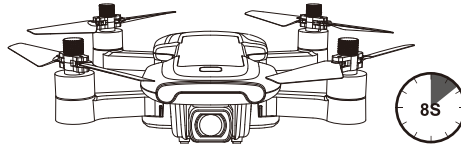
Pic. 2



- Signal connection is done once for all if the remote controller is not linked to other aircraft.
- Set the connection one by one to avoid signal connection error.

### Aircraft initialization detection

After frequency matching, the aircraft will enter into initialization test. In this time, the yellow red green light flash alternately. The aircraft will finish the initialization about 8s in ground, then enter into compass calibration.



Attention: If the aircraft is always in initialization, can't enter compass calibration. Please place the aircraft in ground, let the aircraft do gyro calibration to exit the initialization.

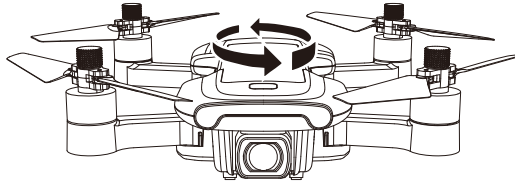
## Aircraft compass calibration

1. Compass calibration should be performed after successful aircraft initialization detection.
2. Aircraft compass calibration should be done for every flight. That is to say, if changing new battery or the battery is reinstalled, compass calibration should be done again.

Two steps of compass calibration:

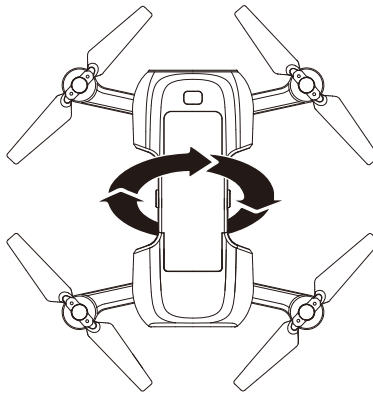
### Step 1: Horizontal calibration

After the initialization, the yellow indicator light flashing, the aircraft enters into the compass horizontal calibration. As seen below picture, rotate the aircraft horizontally for about 3 circles until the indicator light turns green and flash, which means the horizontal calibration is complete.





### Step 2: Vertical calibration

Hold the aircraft with camera facing up, and rotate it 360 degrees along the central axis for about 3 circles until the lights of the aircraft change from flashing to solid on, the compass calibration is successful.



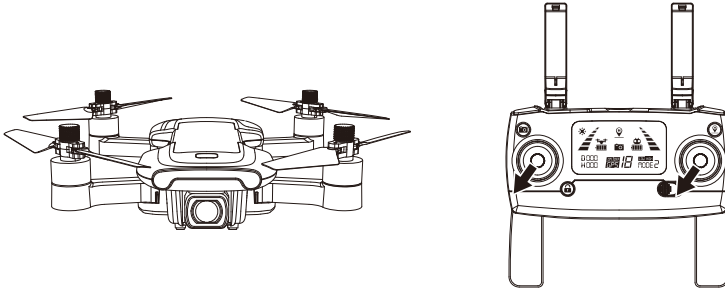
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 Attention: To fly at GPS mode, please choose an open and wide space for the flight, and make sure that the satellite amount is over 7.

- 
-  • Please do not calibrate the compass in strong magnetic area, such as magnetic field, parking place or construction areas with underground reinforcement.
- Please do not carry magnetic materials with you (such as keys, cell phones, etc) when calibrating compass.
  - Please keep away from big metal when calibrating compass.

## Manual gyro calibration

After the aircraft and the remote controller are banded, set the aircraft on flat ground and follow the indication photo as below to calibrate the gyro. Once the aircraft lights turn from flashing to solid on, it means that the gyro calibration is succeeded.



- ⚠ • The gyroscope calibration was done at the factory. Gyroscope calibration is not needed unless the aircraft can not exit the aircraft initialization detection procedure.

## How to lock and unlock the aircraft

### •Unlock the aircraft

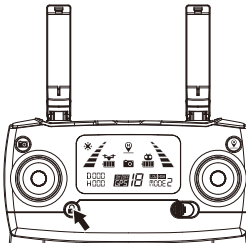
Short-press the red button “🔒”. The motors rotate and the aircraft is unlocked.

### •Lock the aircraft

**There are 2 ways to lock the aircraft that you can find it as below:**

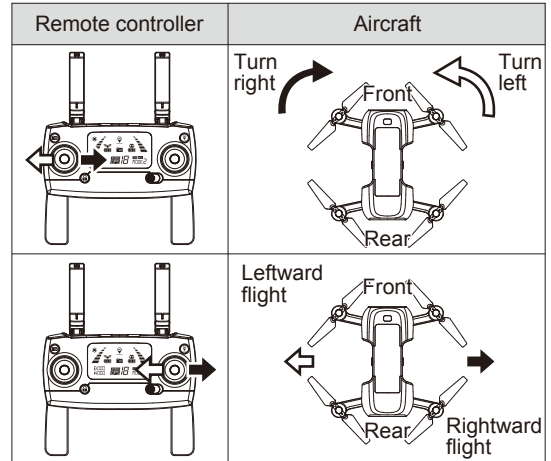
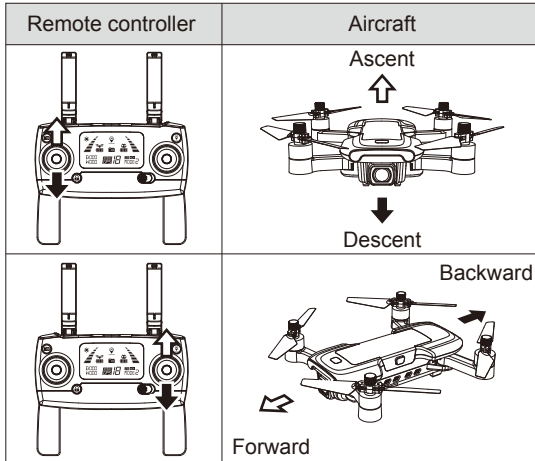
Method 1: After the drone landing, pull the throttle to the bottom and hold for 3 seconds. The motor will stop and drone will be locked.

Method 2: The drone will be locked automatically once no any operation in 15 seconds after unlocked.



- ⚠ **Emergency stop:**
  - Beyond 30 meters distance and 15 meters altitude, press the “🔒” and hold for 3 seconds, the drone will be stop.
  - The function is only for emergency, please don't use it in normal flight.

## Operate the aircraft



## Test Flight

### Basic flight operation steps

1. Place the aircraft in a wide open area that its front is your front.
2. Turn on the aircraft and remote controller.
3. Connect the remote controller with the aircraft and then proceed aircraft initialization detection.
4. Operate the "M RC PRO" APP, connect your device with Bugs 7, enter into the Camera interface.
5. Unlock the aircraft.
6. Pull up the throttle stick then the aircraft takes off, and control the aircraft flight by left/right stick.
7. Pull down the throttle stick to land the aircraft.
8. Pull down the throttle stick to the bottom position and keep for 3 seconds to lock the aircraft.
9. Pull out the battery from the aircraft and then turn off the remote controller.

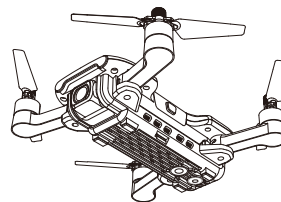
### Video suggestion and tips

1. Do pre-flight checklist;
2. Choose appropriate gimbal shooting angle;
3. Fly in a good weather with no wind;
4. Perform test flights to establish flight routes and to preview scenes;
5. Push the control stick gently to keep the aircraft movement smooth and stable.



Please bear proper operation and flight safety guidelines in mind as it is very important for all of us. For more information, please turn to Appendix.

# Appendix



## Product Parameters

Aircraft	
Gross Weight (Battery and propellers included)	B7: about 245g
Dimensions	Folded: 140x75x55mm(length*width*height) Unfolded: 240x235x55mm(length*width*height)
Diagonal	175mm
Max Ascent Speed	3m/s
Max Descent Speed	2m/s
Max Speed	32km/h
Flight Height Limitation	120m
Max Tilt Angle	35°
Max Angular Velocity	200°/s
Operating Temperature Range	0°C-40°C
GNSS	GPS
Hovering Accuracy Range	Indoor: Vertical±0.3m Horizontal±0.3m Outdoor: Vertical±0.3m Horizontal±0.5m
Operating Frequency	2.4-2.4835GHz (Transmitter) 5.15-5.35GHz (FPV)
Transmission Power (EIRP)	2.4GHz≤20dBm 5GHz≤16dBm
Gimbal	
Gimbal Style	Manual Angle Range
Controllable Range	Tilt: 0° to -90°

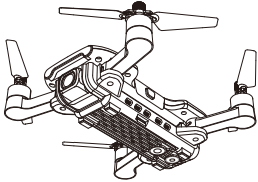


Camera	
Image Sensor	1/2.7 inch CMOS
Lens	FOV: approx.120° Aperture: f/2.5 Focal length: 3.6mm
ISO Range	100-1600 (Auto)
Electronic Shutter Speed	Electronic Shutter: 1/30s-1/10000s
Still Image Size	3840x2160
Still Photography Modes	Single Shot
Video Resolution	3840x2160
Color Mode	RGB Mode
Max Video Bitrate	Video 20Mbit/Transmission 2Mbit
Local Video Frame Rate (In TF Card):	4K@16FPS, 2.5K@25FPS
Maximum Frame Rate	720P@20FPS
Supported File System	FAT32
Photo Format	JPEG Format
Video Format	MP4, Compressed Format H.264
SD Cards	Micro SD Card, Support for 32GB Capacity Expansion Maximally, Class 10 or Up.
Operating Temperature	0°C-40°C
Remote Controller	
Operating Frequency	2.4-2.4835GHz
Max Transmission Distance	300m
Operating Temperature	0°C-40°C
Battery	AA*2
Transmission Power (EIRP)	2.4GHz≤20dBm
Operating Current/Voltage	200mA@3V
Charger	
Standard Input	5V/2-2.1A
Standard Output	7.6V/2A
Rated Power	15.2W
Aircraft Battery	
Capacity	1500mAh
Voltage	7.6V
Battery Type	Li-po

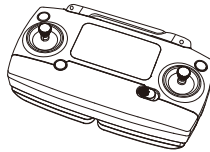
Energy	11.4Wh
Net Weight	about 74g
Charging Temperature Range	5°C-40°C
Charging Current	2A (Max) 2A Adaptor
Charging Time	150 minutes
<b>APP</b>	
APP Name	M RC PRO
Image Transmission System	WIFI 5GHz
Real-time Image Transmission	720p@20fps
Latency	200-300ms
Required Operating System	iOS 9.0 or later Android 4.4 or later

## Packing Detail

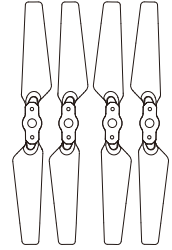
Full package includes the following parts.



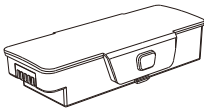
Aircraft \*1



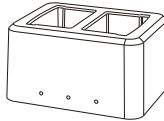
Remote Controller \*1



Propellers \*4



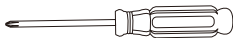
Aircraft Battery \*1



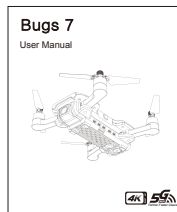
Charger \*1



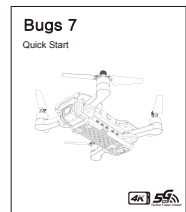
USB Cable \*1



Screwdriver \*1



User Manual \*1



Quick Start \*1

## Important Statement

- This aircraft is not a toy, but hobby grade model. It should be assembled and operated properly. Pilot must operate this aircraft in safe way. Improper operation may cause injury or property damage.
- This aircraft is applicable for pilots aged 14+ who are with skilled flying experience.
- Users are in full charge of proper operating this aircraft. Manufacturer and dealers disclaim any responsibility for damages caused by misuse.
- Keep the small accessories away from kids to avoid accident.

## Flight Safety Guidelines

Hobby grade radio control aircraft is somewhat considered to be the highest danger potential article. Users should firmly uphold the principle of “safety comes first”. Never fly the aircraft near airports, above crowds or in zones storing dangerous goods and understand the responsibility of the accident may cause by improper operations.

### ● **Stay away from obstacles, crowds, power lines, trees or waters**

Always choose a wide open area for every flight, well away from people and property. Never fly directly over people or animals. Please don't fly in such bad weather conditions as high temperature, snow, strong wind ( $\geq$ level 5), rain or fog. Maintain a 7ft (2m) distance from the aircraft when taking off and landing.

### ● **Keep the aircraft in dry environment**

The aircraft is composed by sophisticated electronic components and mechanical parts. To avoid damages on the mechanical and electronic components, please keep the aircraft in dry environment and use clean cloth to wipe the surface and keep it clean.

### ● **Practice flying together with skillful pilot**

Beginners are suggested to practice flying together with skillful pilot's guidance. Do not fly alone.

### ● **Bear proper operation and safe flight guidelines in mind**

Please take a careful look at the manuals before flights for important information of product functions and operation tips, and learn how to use the accessory, safe flight always comes first. Stay informed of and abide strictly by relevant local laws and regulations. Keep away from any non-flight zones and respect other people's privacy.

### ● **Safe flying**

Please make sure you are in good shape mentally before every flight. Fly the aircraft as per your flying experience. Never fly under influence of alcohol or drugs. Keep the remote controller at least 20 cm away from your body when flying the aircraft.

### ● **Keep distance from a flying aircraft**

Never use your hands to touch a flying aircraft under any circumstance. Don't approach and touch a landed aircraft before its propellers are completely locked.

### ● **Keep away from heat source**

The aircraft is made of metal, fiber, plastic, electronic component and other material. Please keep it away from the heat source to avoid deformation or even damage caused by sun exposure and high temperature.

### ● **Environmental protection requirements**

To protect our blue planet, so please recycle the aircraft as per local laws and regulations.

**Note:**

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

