


**SYMA**

# X31 GPS DRONE



**User Manual**

Acceleration standard: GB/T 21001-2017

GPS

1. GPS

2. Gyro

3. Compass

4. Light

5. Headlight

6. Motor

7. Propeller

8. Propeller protector

9. Battery

10. Camera

11. Return home button

12. Auto take-off and landing

### Important safety information

Thank you for purchasing this SYMA product. To ensure that you operate the aircraft correctly, please read these instructions carefully before first use and store them in a safe place for future reference.

**Safety Guide**

- Adult or experienced RC pilot's supervision is recommend for children.
- Rechargeable batteries are to be removed from the drone before being charged.
- Batteries are to be inserted with the correct polarity.
- Rechargeable batteries are only to be charged under adult supervision.
- Non rechargeable batteries should not be recharged. Batteries should be inserted with a correct polarity. Different types of batteries, new or used batteries should not be mixing.
- Turn off the drone/transmitter and remove the batteries when not in use.
- The supply terminals are not to be short-circuited.
- Keep away from the rotating blades (rotating blades may cause bodily injuries, or damage to property).
- Attention: please assemble the aircraft with the guidance of adults.
- Do not look directly into the LED lights of the drone as it can damage your eyes.
- Exhausted batteries are to be removed from the aircraft.
- Please store the smaller-sized drone accessories in places that are out of reach of children.
- This drone is very powerful. For all first time flights, the left joystick must be slowly pushed up in order to prevent the drone from ascending too fast to avoid unnecessary collision and possible damage and injury.
- When the flight is ended, first turn off the power of the remote control. Then turn off the power of the drone.
- Avoid placing the batteries in places with high temperatures and exposure to heat.
- Please keep a safe distance from the spinning propellers to avoid injury.
- To ensure the electromagnetic environment requirement of the aviation radio (station), using remote controls in the zone, which is in a radius of about 5000m zone from the circle center of the airport runway, is forbidden. All users also should abide by the regulator of radio set forth by government and regulatory agencies including the curfew and area.
- Pay attention to keeping distance of 2-3 meters from the user or other people when the aircraft is flying, avoid the aircraft landing to the head, face or torso of another person.
- Attention: Drone assembly under adult supervision.
- The packing has to be kept since it contains important information.

### Repair and maintenance

- Use clean and soft cloth to clean the product.
- Keep away the product from heat sources.
- Avoid water exposure to this product. Moisture may cause damages of the aircraft electronic parts.
- Transformers used with the aircraft should be examined regularly, such as the cord, plug enclosure and other parts, if any damage is found, please stop using it unless it is repaired or replaced.

### About this product

**Specifications**

**Aircraft**

- Aircraft weight: 185 g (Not included Propeller protector)
- Aircraft size: 33x33x57.8 mm (Install Propeller protector)
- Range: 350 m
- Altitude: 100 m
- Image transmission range: 300 m
- Flight time: Moving indicators for 19 minutes
- Operating conditions: 0°C to 40°C
- Video transmission frequency: 5 GHz
- Motor: 8520
- Battery: 7.6 V 1300 mAh
- Charging time: About 3 hours

**Remote control**

- Operating frequency: 2.4 GHz
- Range: 350 m
- Operating conditions: 0°C to 40°C

**Package contents**

- Aircraft: 1
- Remote control: 1
- USB charging cable: 1
- Clockwise/anticlockwise propellers: 2
- Propeller protectors: 4
- Instructions: 1

### Download the SYMA AIR app and watch the video tutorial

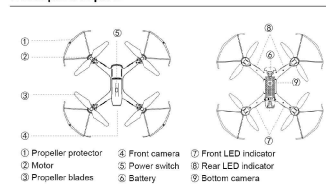
Installing the SYMA AIR app

Scan the QR code with your mobile device or download the app from your app store.

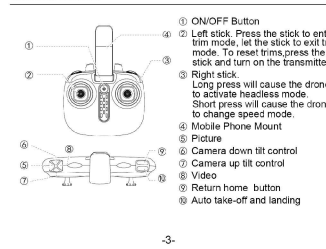


\* Note: For best results, use a device with iOS 8.0/Android 5.0 or later.

### Description of parts



### Remote control

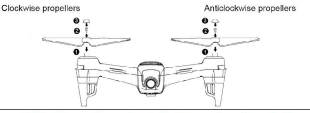


### Assembling the product

**Installing the propellers**


Clockwise propellers

Anticlockwise propellers



- Attach the propellers as shown in the diagrams above. Ensure that they are attached in the correct orientation.
- Ensure that the clockwise and anticlockwise propellers are attached to the correct arms. The aircraft will not fly correctly if the propellers are attached in the wrong position.
- The propellers are made from a delicate material. Pay attention when attaching them to the aircraft.
- Only use propellers that are supplied by the manufacturer.
- The propellers are consumable parts. If necessary, purchase replacements from the manufacturer.

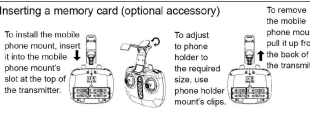
**Installing the propeller protectors**



**Inserting a memory card (optional accessory)**

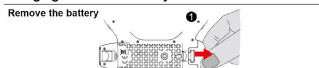
To install the mobile phone mount, insert it into the mobile phone mount's slot at the top of the transmitter.

To adjust to phone holder, use phone holder mount's clips.



### Charging the aircraft battery

**Remove the battery**

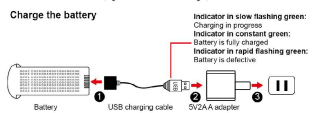


**Charge the battery**

Indicator in slow flashing green: Charging in progress


Indicator in constant green: Battery is fully charged

Indicator in rapid flashing green: Battery defective



- Charge the aircraft with the USB charging cable that came with the product. The battery will take longer to charge when you use an adapter with a smaller rated current.
- Do not short circuit or compress the battery, as this may cause an explosion.
- Do not disassemble the battery or store it in a hot environment.
- If you do not plan to use the aircraft for at least 10 days, discharge the battery to 40%-50%. This helps to prolong the lifespan of the battery.
- Rechargeable batteries should be removed from the aircraft before charging.
- Rechargeable batteries should only be charged under the supervision of adults and keep away from flammable materials.
- Exhausted batteries should be removed from the aircraft.
- Caution: Risk of explosion if battery is replaced with incorrect ones, please install the batteries according to the instructions.

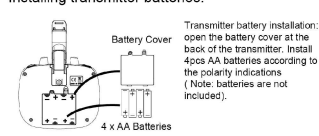
**Insert the battery**



- Ensure that the battery holder clicks into place.
- Do not short circuit or compress the battery, as this may cause an explosion.
- Do not disassemble the battery or store it in a hot environment.
- If you do not plan to use the aircraft for at least 10 days, discharge the battery to 40%-50%. This helps to prolong the lifespan of the battery.
- Rechargeable batteries should be removed from the aircraft before charging.
- Rechargeable batteries should only be charged under the supervision of adults and keep away from flammable materials.
- Exhausted batteries should be removed from the aircraft.
- Caution: Risk of explosion if battery is replaced with incorrect ones, please install the batteries according to the instructions.

### Installing transmitter batteries:

**Transmitter battery installation:** open the battery cover at the back of the transmitter. Install 4pcs AA batteries according to the polarity indications (Note: Batteries are not included).



- When installing the batteries, ensure that you match the + and - ends of the battery with the + and - signs on the controller.
- During the battery installation, it must be ensured that the polarity of the batteries are matched with that of the battery box. No battery shall be installed with the opposite polarity.
- Please do not use new and old batteries together.
- Please do not use different types of batteries together.
- Do not use rechargeable battery.

**Flight preparation and turning the aircraft on/off**

**Pairing the remote control with the aircraft**



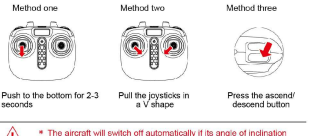
- When you switch on the remote control, the indicator will flash rapidly for approximately 20 secs to indicate that the remote control is waiting for a signal. The indicator will then flash slowly to indicate that pairing mode has been disabled.
- Switch on the remote control indicator flashes rapidly to slowly.
- Indicator stays constant when pairing is complete.

### Turning the aircraft off

**Method one**

**Method two**

**Method three**



- Push to the bottom for 2-3 seconds
- Pull the joystick in a V shape
- Press the ascend/descent button

\* The aircraft will switch off automatically if its angle of inclination exceeds 90 degrees.

### Using the remote control

**Ascend**

**Descend**

**Rotate right**

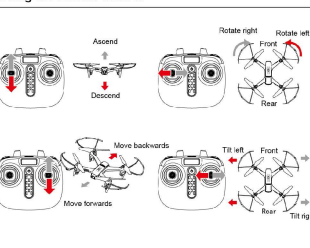
**Rotate left**

**Move backwards**

**Move forwards**

**Tilt left**

**Tilt right**



### Flight modes

**Optical flow positioning**

Front indicator is constant white, rear indicator is constant yellow.

- If the rear indicator starts to flash rapidly, this indicates that the optical signal is weak and the aircraft cannot determine its position.
- Performance may be impaired in dark surroundings, areas with reflective surfaces (e.g. water), or at altitudes of more than 5 m.
- Optical flow positioning only supports altitudes of less than 5 m.

**GPS mode**

Front indicator is constant white, rear indicator is constant green.

- When the battery level is normal, the aircraft can fly to a distance of 350 m at a maximum altitude of 100 m.
- When the battery level is low, the aircraft can fly to a distance of 20 m at a maximum altitude of 20 m.
- If the rear indicator starts to flash rapidly, this indicates that the GPS signal is weak and the aircraft cannot determine its position.
- GPS mode cannot be used indoors.

**Headless mode**

The indicator on the aircraft will flash once every 4 seconds.

- Configuring the forwards direction: When you switch on the aircraft for the first time, the direction in which the front side of the aircraft is pointing will be set as the forwards direction.
- Enabling headless mode: After pairing the remote control with the aircraft, hold down the right joystick for approximately 3 seconds. The remote control will beep 8 times to indicate that headless mode is enabled. To disable headless mode, hold down the right joystick again for approximately 3 seconds.
- In headless mode, you do not need to determine the aircraft's orientation. You can move the joystick on the remote control to make the aircraft move in the corresponding direction.

**Level calibration**

Place the aircraft on a level surface and move the left and right joysticks to the lower right corner for approximately 3 seconds. The indicator will flash rapidly and then stay constant to indicate that the calibration process is complete.

\* The aircraft cannot be calibrated if the angle of inclination is greater than 10 degrees.

**High/low speed mode**

Briefly press the right joystick to switch between high and low speed mode.

- Low speed mode is enabled by default when the aircraft is switched on.
- The remote control beeps twice when high speed mode is enabled and once when low speed mode is enabled.

**One - Key take-off/landing**

- When the drone is under standby mode, press the take-off/landing button to make the aircraft take off automatically and hover at a height of 1.5 m.
- When the aircraft is under active mode, it will automatically land on ground if you press the one key landing button.

**Take a photo**

Record video

**Take a photo or video recording with the remote control**

- Take a photo: Position your hand approximately 1.5 m away from the front lens and hold the [ ] hand gesture for 2 seconds.
- Record video: Position your hand approximately 1.5 m away from the front lens and hold the [ ] hand gesture for 3 seconds.

**Return to home function**

If the remote control signal is lost for more than 20 seconds, the aircraft will automatically return to the take-off position. If the signal is restored during the return flight, you can hold the return button to hold the return to home button to terminate the return flight.

**No signal**

- The aircraft cannot automatically avoid obstacles during the return flight.
- The automatic return to home function is not available when the GPS signal is weak (flashing [ ] indicator).
- If the aircraft does not receive a GPS signal and lost contact with the remote control for more than 20 seconds, it will not be able to return to home but will land automatically.

**Automatic return due to low battery**

When the aircraft battery is low, the aircraft will automatically return to the take-off position. During the return flight, you can use the joystick to control the aircraft ascend, descend and move left/right in order to avoid obstacles.

\* If the aircraft is further than 20 m from the landing position, the return flight cannot be terminated.

\* If the aircraft is less than 20 m from the landing position, the return flight can be terminated.

Landing position: The initial unlock/take-off position.

**Smart app features**



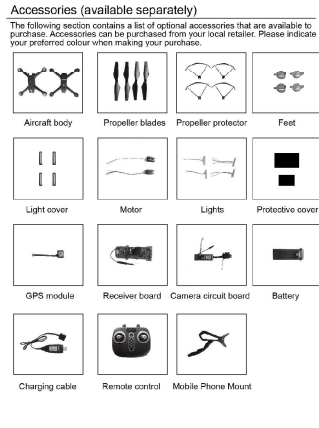
### Understanding the aircraft LED indicators

No.	Indicator status	Meaning
1	Front indicator = constant white, rear indicator = constant yellow	Optical flow positioning
2	Front indicator = constant white, rear indicator = constant green	GPS mode
3	Front and rear indicators flash once every 4 seconds	Headless mode
4	Front and rear indicators flash twice every 1.5 seconds	Recording in progress
5	Front and rear indicators flash rapidly	Pairing or level calibration in progress
6	Front and rear indicators flash twice every second	Low battery
7	Front and rear indicators flash once every second	Signal lost
8	Front indicator = constant, rear indicator = flashing slowly	GPS fault
9	Front indicator = constant, rear indicator = flashing rapidly	Poor GPS reception

Problem	Cause	Cause Solution
The aircraft does not respond.	1. Under-voltage protection was enabled. 2. The remote control battery level is low.	1. Charge the aircraft battery. 2. Charge the batteries in the remote control.
The aircraft's response is intermittent.	1. The remote control batteries are nearly empty. 2. There is interference from a remote control on the same frequency.	1. Change the batteries. 2. Move to a different area where there is no interference.
The aircraft's return to the take-off position is slow.	The aircraft is not calibrated level to the ground.	Calibrate the aircraft.
The aircraft does not level in forward direction in headless mode.	The aircraft was involved in a collision.	Reconfigure the forwards direction.
The aircraft does not hover.	1. The aircraft is not calibrated level. 2. The air pressure is unstable due to the weather. 3. A violent collision corrupted the gyroscope's data.	1. Calibrate the aircraft. 2. Avoid flying in poor weather. 3. Calibrate the aircraft.

### Accessories (available separately)

The following section contains a list of optional accessories that are available to purchase. Accessories can be purchased from your local retailer. Please indicate your preferred colour when making your purchase.



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

NOTE: This equipment has been tested and found to comply with the limits for a Class 3 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. The 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. 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 FCC radiation exposure limits set forth for a particular population (uncontrolled exposure). This device must not be collocated or operated in conjunction with any other antenna or transmitter.

Sold to EU country  
product name: (GPS DRONE)  
model number: (X31)  
Brand name: SYMA  
Contact person: Mr. Huang  
Tel: +86-0754-86281701

Manufacturer:  
Guangdong SYMA Aircraft Industrial Co., Ltd.  
Address: 2 West Xingye Rd, Lantian Industrial Area, Chenghai, Shantou, China  
Sales department: +86 0754 86980098  
After sales service: +86 0754 8632099  
Fax: +86 0754 86330098  
Website: www.symastoy.com  
Email: syma@symastoy.com

The company has the right of final interpretation of this user manual.

For DRONE:

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.

12-

14-

11-

RF Frequency Band: 2408-2472MHz  
Transmitter Power: 1.90dBm(Max)  
5G Wifi Frequency Band: 5180MHz  
Transmitter Power: 16.6dBm