HS-SERIES ®

HS190(FPV Function)

User Manual

14+

Congratulations on your new HS190 RC Drone with HD camera. This user Manual will show you the basic knowledge about the quad and the operation. Please feel free to contact us for your further concern about the product.

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Content

Features:

- *Easy to Carry*
- *FPV Function*
- *Altitude Hold*
- *Headless Mode*
- *One Key Return*
- *3D Flip*

Preface

To make your experience with this drone as straightforward and convenient as possible, please read this instruction manual carefully before operation. Keep it safe for future reference to ensure continued, safe and enjoyable use of your drone.

Important Statement

1. This product is not just a toy. It is a high precision quadcopter integrating various electronic stability and control mechanisms. This drone requires careful and correct assembly and setup to ensure safe, accident free operation. This equipment should be operated in a safe and controlled way at all times. Incorrect or dangerous operation may cause damage to the device or property, or cause serious injury to those in the vicinity.
2. This product is suitable for experienced drone pilots over 14 years of age.
3. In case of difficulties with any aspect of the product, operation or maintenance, please contact your local sales agent or contact customer services here at Holy Stone.

Safety Guidelines

This product is a flying camera that offers easy, controllable flight when in good working order, however it is also a significant risk to property and people if flown irresponsibly or within confined spaces. Incorrect assembly or poor control by inexperienced pilots can result in damage to property or harm to people in an unexpected accident. Be fully aware of your surroundings when flying and always maintain complete control of the vehicle at all times.

1. **Keep Your Distance**
★ Always fly in locations that are clear of any obstructions, such as buildings, pylons, trees and so on
★ Never fly above or near to a large crowd of people
2. **Do not fly in adverse weather conditions**
★ Keep clear of moisture, heavy rain, ice and excessive wind.
★ Fly in moderate weather conditions only
3. **Use and maintain the product according to the instructions**
★ Operate this device legally in accordance with instructions provided within
★ Always use original parts made by Holy Stone for maintenance and repair
4. **Do not operate the device alone**
★ If you are a new pilot, seek assistance from an experienced drone pilot as you learn
★ Have others around to help you fly at all times
5. **Safety First every time**
★ Always operate the drone within your limits as a pilot. If you are ill, disoriented, or unsure of how to effectively fly the drone please seek help as this can lead to danger, damage or injury.
6. **Keep clear of rotating parts**
★ During operation the rotors revolve extremely quickly, please avoid contacting with the blades and ensure that foreign objects are kept clear of all moving parts.
7. **Avoid exposure to excessive heat**
★ Due to the numerous material types used in construction, this drone is not suitable for exposure to heat. Please keep your device away from heat sources and avoid prolonged exposure to direct sunlight. High temperatures can distort the structure of the device, please check for such damage before flying.
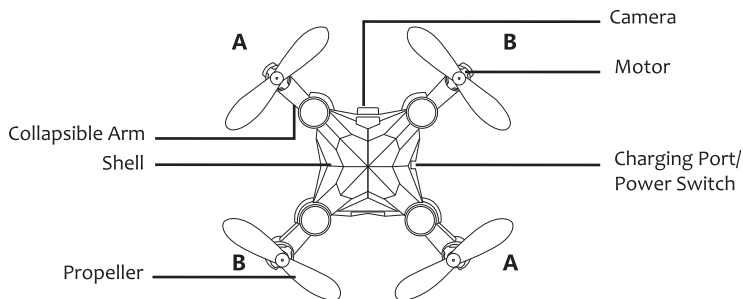
Warning

1.The information and guidance within this package and instruction manual is important for the safe operation and maintenance of your drone. Please keep it safe for future reference.

2.You accept sole responsibility for any injury, loss or damage that result from your operation of the device.

3.Always follow the instructions when assembling or operating the drone. Always keep at least 2 meters between the user or viewers and the model to avoid risk of injury. Pay attention to the device at all times while in flight.

4.Neither Holy Stone nor any distributors or agents accept any responsibility for loss, injury or damage caused by incorrect operation of the drone.

5.This drone is not suitable for children under the age of 14, and should always be operated under supervision for young pilots.

6.Please ensure assembly instructions are followed correctly to ensure proper operation and performance of your drone.

7.This product contains small parts. To avoid any choking hazard, please keep this drone and all components out of the reach of children.

8.You must not under any circumstances fly this drone over open water or near public highways to avoid risk of accident.

9.Keep all packaging materials away from children and dispose safely.

10.The internals of the drone are not user serviceable, please do not attempt to disassemble this drone or re-equip any part of the drone, to avoid malfunctions during flight.

11.Please ensure batteries are fitted in the correct orientation as shown in these instructions.

12.You can access the transmitter battery compartment by unscrewing the screws on the battery cover. Insert batteries ensuring they are in the right orientation. Always replace battery cover and tighten the screws to secure before use.

13.Only use the charger provided with your drone for safety.

14.The charger is not a toy.

15.Always pay close attention to battery polarity when inserting any batteries to make sure they are fitted correctly.

16.Use either rechargeable or non-rechargeable 'AA' batteries in the transmitter.

17.Use only recommended batteries in the transmitter, please remember that non-rechargeable batteries must not be charged.

18.For rechargeable batteries, always follow manufacturer's instructions and have adult supervision. Do not leave charging batteries unsupervised and as batteries get hot when charging, avoid any combustible material.

19.Avoid short circuits by fitting the batteries incorrectly, and do not crush or squash batteries as this carries a risk of explosion.

20.Do not mix new and old batteries as this can lead to unpredictable performance.

21.Dispose of used batteries carefully, do not litter.

22.The power socket must not be removed from this drone. Do not attempt to short circuit the connecting socket.

23.When disposing of batteries do not throw on fires, leave to decompose. Keep clear of heat sources and high temperatures at all times.

24.If the device is not going to be used for an extended period, remove batteries to prevent potential damage from battery leakage.

25.Care should be taken to keep your drone away from sources of magnetic interference or other electrical equipment to prevent signal issues during operation.

26.Keep clear of rotating parts and beware of loose clothing that could become entangled in the rotors causing injury.

27.Do not shoot the light beam directly at other people or yourself.

28.Be aware of the volume of noise the drone produces. Keep your distance to avoid ear damage.

29.The charge socket uses a mini USB 5V connection.

30.Always use the product in compliance with local aviation radio rules and comply with local authorities should they require you to refrain from operating at any time.

Maintenance

1. Clean the product after each use with a clean, soft cloth.
2. Avoid prolonged exposure to direct sunlight and avoid heat buildup in the drone.
3. This device is not waterproof and must not be submerged in water under any circumstances. Failure of the unit will result from water contamination.
4. Check the charging plug and other accessories for signs of damage frequently. If any part of the device is damaged refrain from flying until maintenance can be carried out.
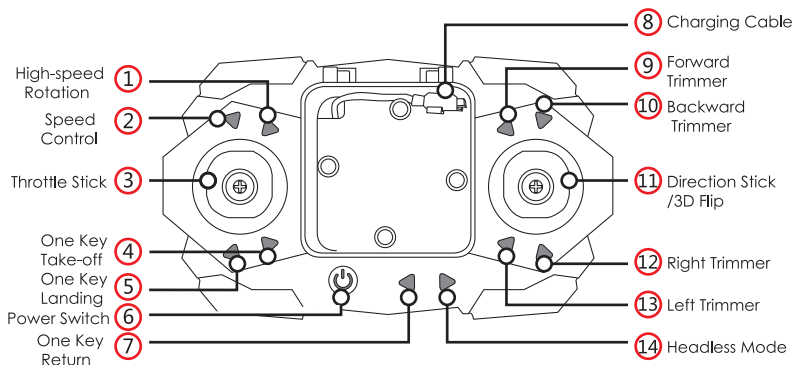
Parts Diagram

The Head

A   B

Camera

Motor

Collapsible Arm

Shell

Charging Port/
Power Switch

Propeller

B   A

**Counterclockwise
(Black and White Wire)**   **Clockwise
(Blue and Red Wire)**

Please Note: Letter **A** or **B** is printed on each propeller; Make sure all propellers are assembled in the right orientation according to the image above.

8 Charging Cable

High-speed ① Rotation

9 Forward Trimmer

Speed ② Control

10 Backward Trimmer

Throttle Stick ③

11 Direction Stick /3D Flip

One Key ④ Take-off

One Key ⑤ Landing

12 Right Trimmer

Power Switch ⑥

13 Left Trimmer

One Key ⑦ Return

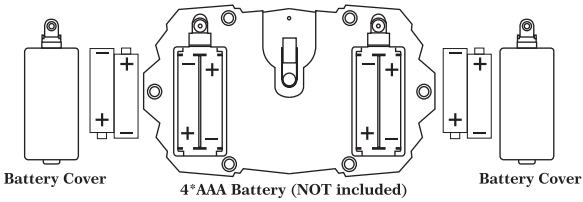14 Headless Mode

Important Tips:

1. This model is equipped with powerful, responsive motors. If you are inexperienced in flying drones, begin by flying the model over soft ground, an area of grass for instance. Slowly increase the throttle and fly at low speed until you gain a feel for the model to avoid damage to property or the model itself.
2. The internals of the drone, including motors, get hot during use. For long term reliability of your drone, take a 10-minute break between flights to allow the internals to cool down.

No.	Function Switch	Function Description
1	**High-speed Rotation**	Press this button and the quadcopter will rotate at high speed.(Press it again to cancel the high-speed Rotation.)
2	**Speed Control**	There are 3 flight modes of the model: low speed, medium speed and high speed. Press this button then the transmitter sounds " Di " /" Di Di " / " Di Di Di" for low/medium/high speed.
3	**Throttle Stick**	Moving this up or down adjusts the throttle, which controls the vertical movement of the quadcopter.
4	**One Key Take-off**	Unlock the quadcopter, press this button and the quadcopter will take off automatically.
5	**One Key Landing**	When flying, press this button to land.
6	**Power Switch**	One press turns on the transmitter, and a press turns it off.
7	**One Key Return**	Press this button, the quadcopter will then fly back to the pairing location, providing a simple, one button solution to getting your drone back to its start direction.

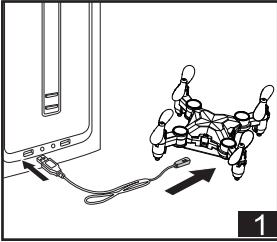| No.	Function Switch	Function Description
8	**Charging Cable**	You can use this cable to charge the quadcopter directly.
9	**Forward Trimmer**	Press the button if the quadcopter drifts backwards during flight.
10	**Backward Trimmer**	Press the button if the quadcopter drifts forwards during flight.
11	**Direction Stick/ 3D Flip**	Moves the quadcopter forward/backward/left/right as needed. From a press of the stick will start beeping continuously. Now taking the quadcopter above a height of 3M allows you to perform a flip by holding the right control level in the desired direction of the flip. Each move of the right level will result in the model completing another flip in that direction.
12	**Right Trimmer**	If the quadcopter drifts to the left after take-off press this button to trim it.
13	**Left Trimmer**	If the quadcopter drifts to the right after take-off press this button to trim it.
14	**Headless Mode**	Headless Mode makes it easier to control the steering of the quadcopter. In Headless Mode, the direction the pilot faces would be the forward direction. When pairing the drone, make sure that the head of the drone is facing forward while the tail is facing towards the pilot.

Installing the Battery of Remote Controller

Assembly: Open the battery cover on the rear of the control unit to install 4 'AAA' batteries in the orientation displayed. Never mix old and new batteries or mix different battery types together. (Please note that there is no screw needed at the back of battery cover)
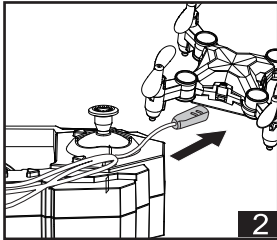
Battery Cover   **4*AAA Battery (NOT included)**   **Battery Cover**

Note: There are two ways to charge the quadcopter battery (3.7V220 mAh).
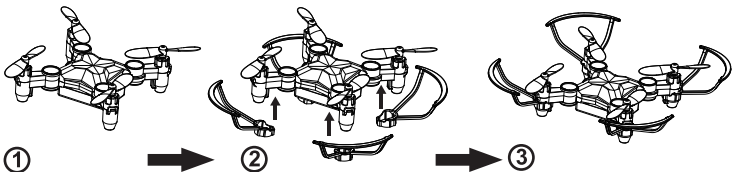

1. Turn off the quadcopter. Insert the provided USB Charger Wire into the USB Port . Connect the quadcopter to the USB cable. The red indicator light will turn on, indicating that the battery is successfully charging. The light will go off when the battery is completely charged.
Charging time is around 60 minutes.
Flying time is about 6-7 minutes.

2. Turn off the quadcopter and turn on the transmitter. Connect the quadcopter to the USB cable which is bulit in the transmitter. The Power Switch light will turn blue, indicating that the battery is successfully charging. The light will turn red when the battery is completely charged.
Charging time is around 60 minutes. Please make sure that the batteries of transmitter are full before charging the quadcopter.

Assembling the Propeller Guards

You can assemble the propeller guards as needed.

① ➡ ② ➡ ③

-6-

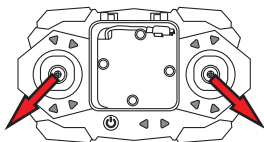## Pairing Your Quadcopter and Transmitter

First turn on the quadcopter, then turn on the transmitter.

When you see the quadcopter lights change from flashing to solid, and hear the transmitter beep once, it means that the quadcopter and the transmitter have been paired succesfully and automactically.
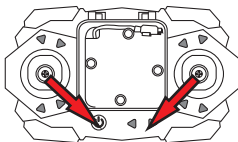
Unlocking the Quadcopter

After pairing the quacopter, move the left stick downwards to the bottom left and move the right stick downwards to the bottom right at the same time.
The propellers will start spinning, indicating that the quadcopter is ready to take off.

Calibrating the Gyro

1.Place the quadcopter onto a clear, flat and level surface.
2.Turn on the quadcopter, then turn on the transmitter, the quadcopter and transmitter will be paired automactically.
3.Move the left stick downwards to the bottom right and the right stick downwards to the bottom left at the same time. Hold them there until the quadcopter LED lights first flash and then turn solid and the transmitter will beep once.
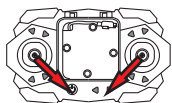4.The gyro will now be reset.

Note: Please complete the calibration after the quad is successfully paired.
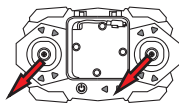
Flying Your Quadcopter

Important: The range for reliable communication between your quadcopter and the transmitter is around 50 meters depending on terrain and conditions.
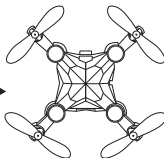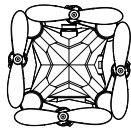
1. Ensure that you have enough space for your flight each time you fly your quadcopter. The area, whether indoors or outdoors, should be free of obstacles, people and animals. Also, the area should dry, and in the case of outdoor flying, low wind levels.

2. Turn on the quadcopter first, then the transmitter. Place the quadcopter on a clear, level surface so it is ready for your flight.

3. When you see the quadcopter light stop flashing and turn solid, and hear the transmitter beep once, it means that the transmitter is successfully and automactically connected to the quadcopter.

4. To unlock the quadcopter, move the left stick to the bottom left and right stick to the bottom right. The propellers of the quadcopter will spin.

5. Slowly move the throttle stick upwards or press the One Key Take-off button and the quadcopter will take off and hover steadily.

6. If you want to urgently stop the engine, pull the left stick to the bottom right, and pull the right stick to the bottom left at the same time for about 1 second. (See picture below)

7. If the quadcopter still can't fly stable after calibrating the Gyro and the trimmer data is in a mess, you could try to do this to zero the previous trimmer data from transmitter: pull the left stick to the bottom right, and pull the right stick to the bottom left at the same time for about 1 second.

8. If you would like the previous trimmer data from quadcopter iteself could be zero, pull the left and right stick both to the bottom left simultaneously for about 1 second.

Emergency Stop and Trimmer Initializing (transmitter)

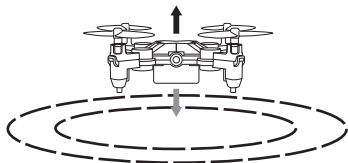**Trimmer Initializing (quadcopter itself)**

Please unfold the collapsible arms before the flight.

When the quadcopter is in low power, the LED lights of the quadcopter will flash slowly. Please stop flying it and charge the quadcopter battery.
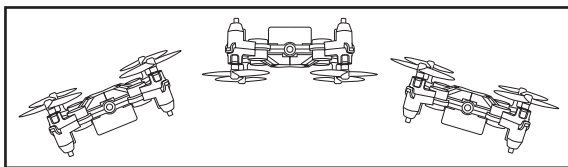
Altitude Hold

Your quadcopter includes an Altitude Hold Mode built into the system, meaning that the drone will keep a steady altitude when hovering automatically.

Move the throttle (left) stick up and the quadcopter will gain height, move it down and it will reduce height, center the stick and the quadcopter will maintain its current height for you.

3D Flip

Once you have become familiar with the basic flight capabilities of your quadcopter you can move on to some more acrobatic maneuvers. The quadcopter must be at a height of more than 1M for this to function, however once above this height, you can press the direction stick (right stick) and then move the right control level in the direction you wish to flip the drone. Whatever direction you move the right stick, the drone will flip in that direction.

Caution: The quadcopter will perform at its best with a fully charged battery.

One Key Return

⚠ *Please avoid using this feature when the quadcopter is near to the pilot, otherwise it may cause injury.*

With a press of the One Key Retun Button, the quadcopter will return to the parallel direction where is was paired. (Please see Page 10)
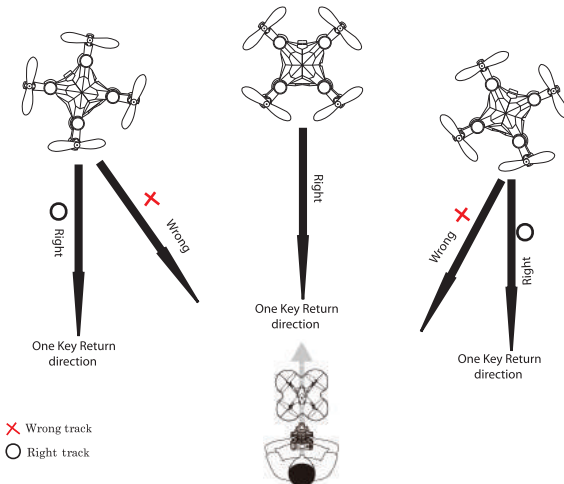
You can move the right stick forward or press the One Key Return button to retake control of the quadcopter and cancel the One Key Return function.

1. Place the quadcopter on a clear, flat and level surface, with the head of the quadcopter facing directly away from the pilot and the rear facing the pilot.

2. Bind the quadcopter and transmitter as usual, turn on the quadcopter and then the tranmitter, binding will be automatically finished. Unlock the quadcopter and fly it.

3. Press the Headless Mode button, the quadcopter lights will flash and the transmitter will sound three beeps. In this mode, the drone can move in any direction according to the pilot's control inputs on the two control sticks.

4. Press the Headless Mode button again to exit the Headless Mode. The transmitter will sound a beep.

Tips:

1. Make sure that the quadcopter is positioned with the head facing away from the pilot during pairing.

2. During flight in Headless Mode, the pilot should remain stationary and not move around at all. This is because in this mode, the quadcopter flies relative to the point at which it was paired, not to the position of the pilot and transmitter. This is also important to remember if using the One Key Return function, where the drone will go back to the location it was paired, not to the transmitter or pilot.

3. For the best flying experience in Headless Mode, the pilot should remain stationary and face the same direction the head was pointing when the quadcopter was paired.
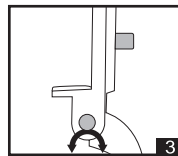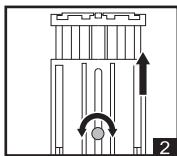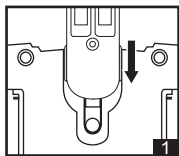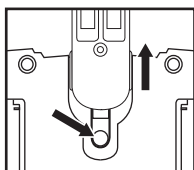

Where the drone is paired.

WIFI FPV
INSTRUCTION FOR USE

This model uses WIFI in combination with cameras to display real time images on smartphones. All that is needed is a suitable Android or IOS smartphone with the App installed.

Assembling the Phone Holder

1. Insert the phone holder into the slot on the rear of the controller.
2. Rotate the metal part countclockwise then pull out the phone holder to the appropriate position. Rotate the metal part clockwise to fix it.
3. Rotate the metal part on the right counterclockwise to adjust the angle of the phone holder. Rotate it clockwise to fix the phone holder.

Tip: If you want to take out the phone holder, please keep pressing the circle button and pull it out.

APP Installation

Scan the relevant QR code below with your smartphone and install the 'HS190W FPV' App.

Android

IOS

Turn on your quadcopter, then go into your phone settings, select WiFi, and then connect to " HS190W FPV", which is the camera connection. Once you have successfully connected, exit the settings menu on your phone and open the 'HS190W FPV'App.
To seereal time images from the quadcopter, simply press the circular button in the app.

Open the APP
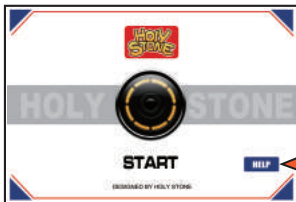'HS190W FPV"

Click the "START" button

Real-time image or video will show on the mobile screen

Click the "help" icon, the app will show you all the functions.

All images and videos will be saved to a folder on the mobile phone. You can click the folder to check your data.
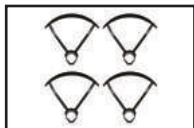
Spare Parts

Charger

Phone Holder

Transmitter

Propeller Guard

Propeller

Screw Driver&Opener

Holy Stone is committed to providing the tools that enrich the lives of young adults and children alike. Holy Stone Toys places the quality of our products and services at the heart of everything we do, and our goal is to provide the joy of entertainment and fun to all by providing the best products and support possible to all of you.

We value every customer and appreciate your suggestions and opinions. So please feel free to contact us:

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MANUFACTURER INFORMATION

HS190 is manufactured by: Holy Stone

Xiamen Huoshiquan Import & Export CO., LTD.

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XIAMEN,

China

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FCC ID: 2AJ5513358327006

FCC ID: 2AJ55HOLYSTONEH01

FCC Information

This devide complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This devide may not cause harmful interference

(2) This devide must accept any interference received, including interference that may cause undesired operation.

NOTE: 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.

FCC WARNING:

The equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. Modifications not authorized by the manufacturer may void user's authority to operate this devide.

RF Exposure

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

LiPo Battery Care Instructions

Temperature

● Heat is a known factor. If a battery is pushed beyond 60°C during discharging or charging, problems could occur due to metallic lithium generation, which damages the cell.

● After a flight, you may find your batteries are warm to touch. Cool down the battery a little bit before recharging.

Storage

● Please store batteries at normal room temperature and avoid direct exposure to sunlight or heat. When storing LiPo battery for any length of time, they should deally be stored at a temperature of between 5°C and 7°C.

● If you have a battery pack sitting on the shelf, fully charged, never try topping it up till it has been partially or fully discharged!

Usage

● There should be a time interval between charging and using battery.

● Please make sure you time your flights to leave about 20% power remaining in the batteries (instead of completely draining them down) as that would prolong battery life and you can enjoy more cycles!

● If the battery is pushed beyond its limits, the battery could get hot and the performance will drop.

● When using the battery for a long time, the quantity of heat of your battery will increase. If it is sealed, the air inside will inflate rapidly causing heating.

Charging

● DO NOT overcharge the battery. It may cause overheating and in turn this overheating could damage the unit.

● Never try charging a pack that has been crashed or is damaged, you run the risk of fire! Cells that are obviously swollen or have physical damage should never be used and careful disposal is required, especially if the cells are swollen.

● If the battery or the charger is defective, you should discard it immediately and process a warranty from our support team(usa@holystone.com). We can arrange to ship you a replacement charger or battery.

● After crashing the quadcopter, please check the battery connector and battery properly.

● Please use genuine factory spare parts replacements from Holy Stone only.

Li-Po Battery Disposal & Recycling
Wasted Lithium-Polymer batteries must not be placed with household trash. Please contact local environmental or waste agency or the supplier of your model of your nearest Li-Po battery recycling center.

Made in China