Ages 14+

Potensic®

U47

Operation Guide

Catalog

Instruction For Drone And Controller

Drone

Left Protection Ring

Front

Right Protection Ring

Propeller A

Propeller B

Left

Drone Cover Housing

Power Switch

Right

Propeller B

Propeller A

Rear

Camera

Front LED (Green)

Front LED (Green)

Drone Bottom Housing

Rear LED (Red)

Rear LED (Red)

Drone Battery

Specifications

Drone Size	267x245x59mm	Charging Time for Drone Battery	160~180 mins
Drone Weight	147g	Flying Distance/Radius	About 50m
Propeller Diameter	113mm	Streaming Video Range/Radius	About 30m
Flying Time	8~10 mins	Flying Height	About 15m
Drone Battery	3.7V 1000mAh		

Exploded View

No.	Name	No.	Name
1	Propeller plug	14	Receiving plate holder
2	A Propeller	15	Camera plate
3	Rotary gear	16	Battery adapter plate
4	Right rear light board (red light/white plug)	17	Drone bottom Housing
		18	Landing gear lampshade
5	Copper cup	19	Shock proof tape
6	Motor frame	20	Lens press B
7	Main shaft steel pipe	21	lens organic plate
8	Steel pipe fixer	22	Power button
9	Propeller A motor	23	Left rear light board(red light/red plug)
10	B Propeller	24	Drone cover Housing
11	Right front light board (green light/red plug)	25	Left front light board(green light/white plug)
		26	Battery cover
12	Propeller B motor	27	Left protection ring
13	Dash receiver	28	Right protection ring

Controller

Phone Holder Slot

Photo

Video

Power Indicator

Throttle Stick

Headless Mode

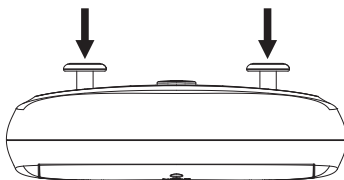One Button Take Off / Landing/ Emergency Stop Button

Direction Stick

Power Switch

Notice: Taking photo and recording video are available after connecting with smart phone.

Trimmer Mode Button (Press Down)

High/Medium/Low Speed Mode (Press Down)

Controller Button Functions

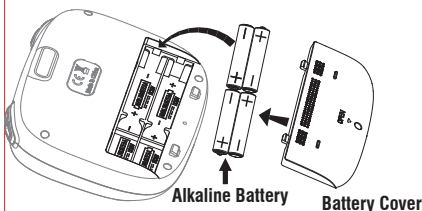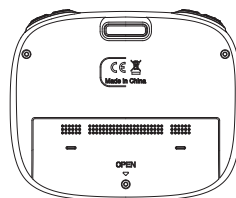|	
Left Stick: Move the Stick to forward / backward / left / right to fly the drone up / down / turn left / turn right.	
Right Stick: Move the Stick to forward / backward / left / right to fly the drone forward / backward / left / right.	
Power Switch: Press the power switch to turn on the controller, and press again to turn off.	
Photo: Press down the button, start to photograph.	
Video: Press down the button, start to record video.	
Heading Hold Mode: Press to enter Heading Hold Mode. Press again to exit Heading Hold Mode.	
Take Off / Landing / Emergency Stop Button: Press once and the drone will take off automatically. Press again and the drone will land automatically. Press and hold the button for more than 1 second for an emergency landing, the drone propellers will stop and it will land immediately.	
High / Medium / Low Speed button: Press to right switch to High /Medium/ Low Speed.	
Trimmer Mode Button: Press down the left stick and turn to the required trimmer direction, then it will adjust the direction accordingly. Release the stick to exit trimmer mode.	

Battery Installation

Open the battery cover on the back side of the controller, insert 4 AA batteries by following the polarity indicators. (Picture 1/2, battery is not included)
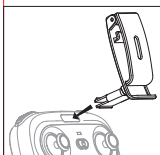

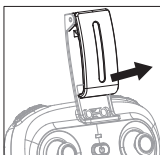**Alkaline Battery**   **Battery Cover**

Picture 1

Picture 2

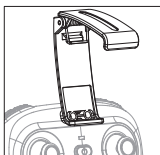| **Notice:**	1.Make sure the electrodes are correct.	3.Do not mix different kinds of batteries.
	2.Do not mix up the new batteries with old ones.	4.Do not charge the non rechargeable battery.

Phone Installation Instruction

1. Take out the phone holder and insert into the controller(Picture 3).

2. Unfold the phone holder (Picture 4/5), put the phone into the holder,
then release the clamp, and the phone will be fixed on the holder(Picture 6).

3. When take out the phone clip, you need to press the clip buckle behind the phone
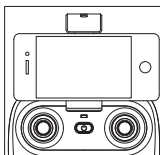clip at the same time, so that the buckle can be closed and removed easily.

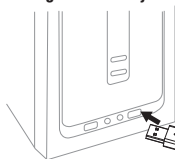| Picture 3 | Picture 4 | Picture 5 | Picture 6 |

Notice： **Make sure that the button on phone is not clamped.**

Parts installation
Charging Instruction for Drone Battery

1. Connect the drone battery with USB cable first and then choose one of the
methods as below picture shown to connect with USB plug.

2. The red indicator will be on while charging and the light will turn green when
the battery is fully charged.

*** For faster charging, it is recommended to use an adapter with 5V 2A output current
(not included) to charge the battery**
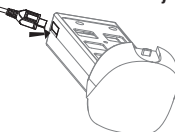

Drone Battery

Phone Charger　　**Power Bank**　　**Computer Charging**　　**Car Charger**
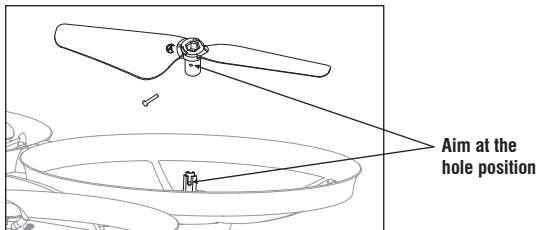
Li-Po Battery Disposal & Recycling

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

Propeller installation diagram

When installing, put the propeller hole aims to the drone shaft hole, and then press down until bottom, tighten it with screw, and then put on propeller cover(Pic 8); when disassembling, loose the screw and then pull out the propeller.

Notice: When installing, please make sure correct propeller in its right place, otherwise the drone can not work well.
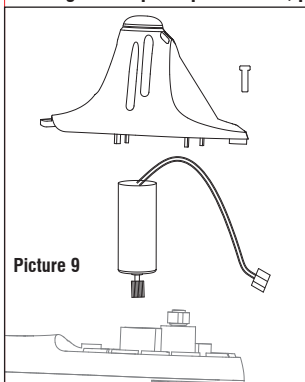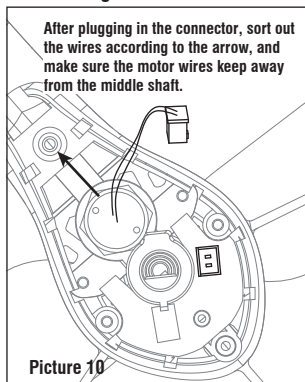

Aim at the hole position

Picture 8

Motors Replacement Diagram

1. To remove the motor, remove the screw from the lampshade first，then take the lampshade out, unplug the motor connector from LED board and then take the defective motor out (Picture 9) .
2. To install the motor, put the motor into motor holder(make sure the motor press down and also the gears are pairing) and plug the required motor connector into the LED board socket. Put on the motor cover and fix it with screw.

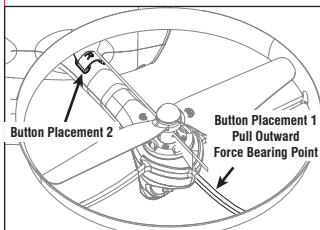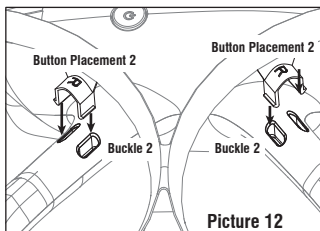**Warning: When pick up the motor, please don't damage the LED board.**

Picture 9

After plugging in the connector, sort out the wires according to the arrow, and make sure the motor wires keep away from the middle shaft.
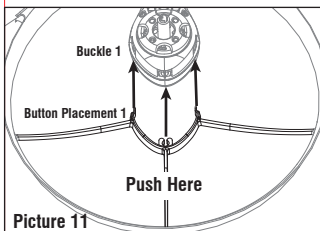

Picture 10

Notice: The rotation direction of the motor should be the same, or it will not work.

Tips: The motor is consumable. If it was damaged, please buy a new motor for replacement.
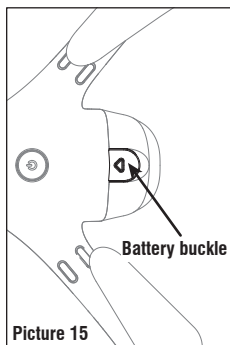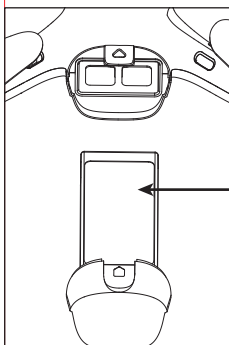
Diagram of loading and unloading of protective frame

When loading, aim the buckle 1 of the protection ring at the position 1 on the bracket and push it to the bottom (Picture 11),then aim the protective ring clasp 2 at the position 2 on the bracket and press down to the right position(Picture 12). When unloading, first pull up position 2, then pull out position 1 outwards(Picture)

Buckle 1

Button Placement 1

Push Here

Picture 11

Button Placement 2

Button Placement 2

Buckle 2

Buckle 2

Picture 12

Button Placement 2

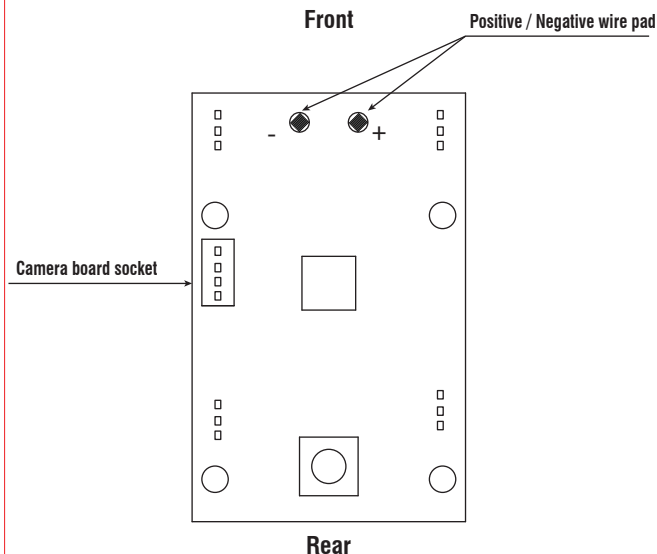Button Placement 1
Pull Outward
Force Bearing Point

Picture 13

Battery installation diagram

When installing, push the battery to the end(Picture 14);
When disassembling,you need to squeeze up and down of the battery buckle and just take out the battery box.

Sticker face up

Picture 14

Battery buckle

Picture 15

Receiver board wire diagram

Front

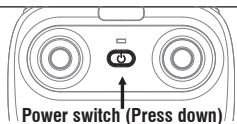Positive / Negative wire pad

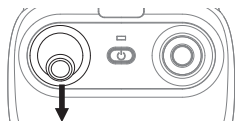Camera board socket

Rear

Pre-Flight Checklist

1. Ensure that the drone battery and controller batteries are fully charged.
2. Ensure that the left stick of the controller is in the middle position.
3. Strictly follow the instructions in sequence for turning on and turning off the controller and drone. Turn on the controller power first and then turn on the drone power before flying; Turn off the drone power first and then turn off the controller power when fishing flying. Improper on/off sequence may cause the drone to fly out of control and could threaten your safety or the safety of others.
   Please cultivate a correct habit of tturning on and turning off.
4. Ensure the connection between the battery and motor is solid. Vibration during use may cause a bad connection and the drone could become difficult to control.
5. Improper operation may cause the drone to crash, which may cause motor defects affecting flying ability. If this occurs, go to the local distributor to buy new replacement parts,so that the drone will be resorted to it's optimum status.

Flight Instruction

Frequency Pairing

Power switch (Press down)

Turn on the transmitter switch and the power indicator light flashes rapidly.

Pull the Left Stick all the way down to the lowest position and then release. The Left Stick will back to the middle position automatically. The power indicator light flashes slowly, which indicates the transmitter is ready for frequency pairing.

Press the drone power button for about 2 seconds to power on, the LED indicator changes from flashing to stable light, the drone is paired successfully and ready to control.(Transmitter beep sound)

It's a must to put the drone on the horizontal position !!!

Take Off

After code pairing successful, press the Take Off / Landing / Emergency Stop Button, the drone will fly up automatically and keep flying at an altitude of 1.2 meters approximately.

Landing

When flying, press the Take Off / Landing / Emergency Stop Button once shortly, and the drone will land on the ground automatically.

(When using this function, do not touch the left stick, otherwise the function will fail)
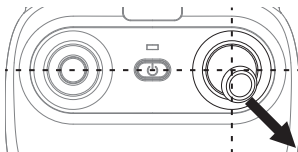
Emergency Stop

When the drone is in emergency situation and going to hit the walking people or obstacle etc., press the Take Off / Landing / Emergency Stop Button immediately and hold it for more than 1s,the propellers will stop immediately.

Tip: Do not use the emergency stop function unless in emergency situation. The drone will fall down suddenly after all propellers stop.

Drone calibration
(Only take this action when abnormal flying)

After code pairing, Push the right stick as picture shown. (Don't move the left stick before successful calibration), the drone body light will flash 3 times, indicating that the drone is calibrating. After successful calibration, the drone lights will become solid and ready to fly.
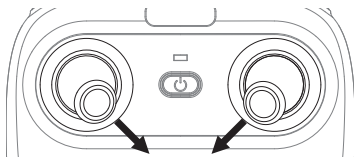

Tips: Crashing the drone may cause it imbalances, which can be adjusted by the trimmer button. If this occurs, you can degrees & re-calibrate.
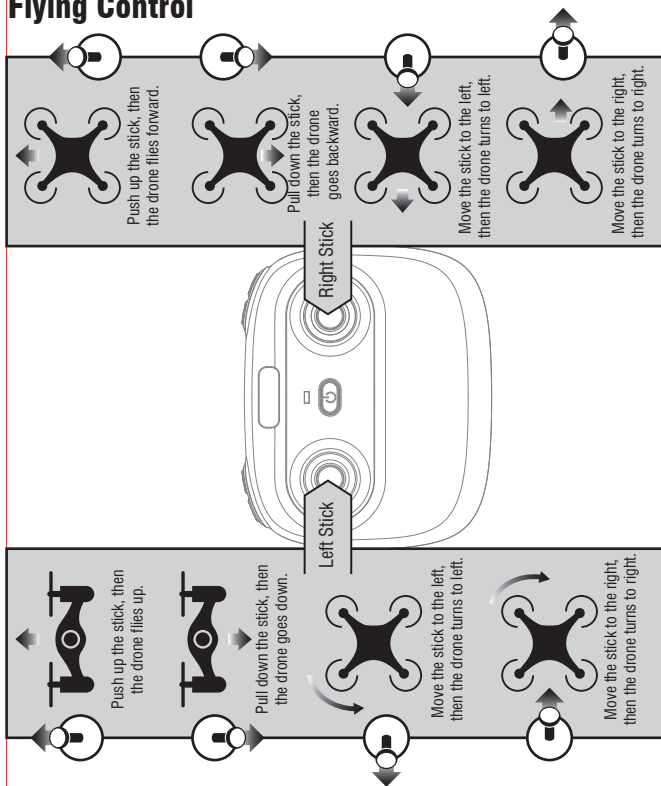
Unlock/lock the motors

Unlock the motors: Push left/right stickers inward 45 degrees at the same time. Lock the motors: When the motors are running, this operation will cause the motors stop running immediately.

Flying Control

Push up the stick, then the drone flies forward.

Pull down the stick, then the drone goes backward.

Move the stick to the left, then the drone turns to left.

Move the stick to the right, then the drone turns to right.

Right Stick

Left Stick

Push up the stick, then the drone flies up.

Pull down the stick, then the drone goes down.

Move the stick to the left, then the drone turns to left.

Move the stick to the right, then the drone turns to right.

Trimmer mode

Forward and backward trimmer
When taking off, if the drone tilts forward, press down the trimmer button, and push the right stick backwards. Otherwise push forwards.

Left and right side flying trimmer
When take off, if the drone tilts to left, then press down the trimmer button and push the right stick backwards to adjust. Otherwise push forwards.

Left and right turning trimmer
When taking off, if the drone head rotates to left,then press down the trimmer button and push the left stick to right. Otherwise push to left.
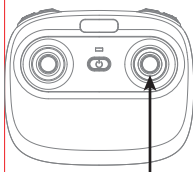
Functions Introduction

Altitude Hold Mode

Intelligent flight control system is able to calculate the hovering position, more stable control feature, and makes it easier for beginners to control. Release the stick, the drone will keep hovering automatically to enable single hand operation and more clearly aerial photography.

Note: If the propeller is deformed or damaged, Altitude Hold Mode will fail. If the atmospheric pressure was instability or in typhoon weather, Altitude Hold Mode will not work well.

High / Medium/Low Speed Mode Switch

Press down this button,then it will sound " di", which means low speed mode "L"; when it sounds " di.di", it means medium speed "M"; and when it sounds" di.di.di" it means high speed mode "H".(Low speed default)

High / Medium/Low Speed button（**press down**）

1. Low Speed Mode(Mode 1)

Low Speed Mode is suitable for beginner.

2. Medium speed Mode(Mode 2)

Medium Speed Mode is suitable for skillful pilots to play in the gentle breeze.

3. High Speed Mode(Mode 3)

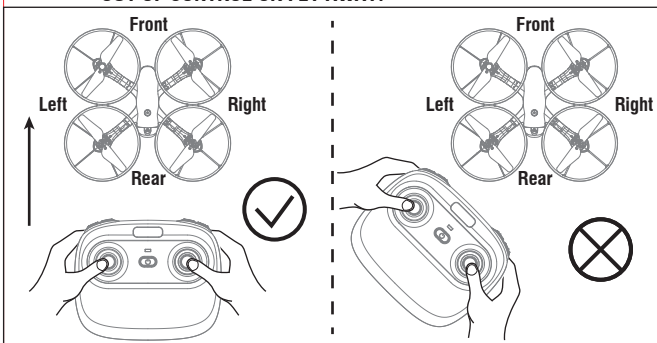High Speed Mode is suitable for expert to experience aerial stunt outdoor.

Heading Hold Mode

Drones generally have a front and rear indicated by LED lights or colored propellers. By default, the users are required to tell the front and the rear of the drone when flying. Under heading hold mode, the users can operate the drone without worrying about the orientation (left is left and right is right all the time, regardless of where your drone is pointing at).Heading Hold Mode is designed for beginners and the users who fly the drone in daylight or at a far distance or have difficulty to identifying the drone orientation.
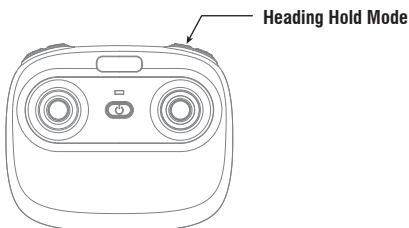
The default setting is NOT Heading hold Mode.

You are allowed to activate the heading hold mode function before taking off or in flight. Fly under heading hold mode, you're required to ensure the drone front direction aligned with your front direction, DO NOT change your direction of your transmitter and keep it fly in front of you all the time.(See below picture)

WARNING: DO NOT USE HEADING HOLD MODE BEFORE YOU ARE SURE THAT THE DRONE'S FRONT IS YOUR FRONT. OTHERWISE, IT MIGHT BE OUT OF CONTROL OR FLY AWAY.

*Press the Heading Hold Mode button. The drone's LED lights will flash alternatively, indicating that the drone has entered Heading Hold Mode.
To turn off Heading Hold Mode, press the Heading Hold Mode button again. The drone's LED lights turn solid, indicating that Heading Hold Mode is off.

Heading Hold Mode

Low Battery Alarm

When the transmitter in low battery, the transmitter will beep "di...di...di..." to remind the user to land the drone to replace the batteries as soon as possible. Or the drone may be out of control.

When the drone in low battery, the transmitter will beep" di.di.di..." constantly to remind the user to land the drone as soon as possible.

Out of Range Alarm

When the drone is going to fly out of the max remote control distance, the transmitter will beep "didi...didi...didi..." to alarm the user to fly back the drone immediately. Or the drone may be out of control and fly away.

Motors Stuck Protection

1. When the propellers get stuck, then the drone LED will flash quickly and activate stuck protection function and the motors stop running.
2. Pull down the left stick to the lowest position, the drone LED will get a solid light and stuck protection will be released and the drone can fly again.

Know your APP

Download and install APP: Potensic

This software is suitable for mobile phones in the IOS and Android system, please surf the mobile phone application store website to download and install it.

1. The user of IOS mobile phone can surf App Store to search Potensic to download.
2. The user of Android can surf Google Play to search Potensic to download.
3. You can scan the QR code on the right or the QR code on the color box directly to download and install it.
4. For detailed operation, please check the system "HELP" of APP.

Display the photos and video

The photos and videos are stored in the phone local gallery, you can display them in the phone directly. You also can display it in the APP through shortcut icon to enter the media interface.

Notice: App must be authorized to access the phone gallery, if not, then may be unavailable to display the video and photos.

Spare Parts (Sold separately)

These are the components for choice below. For your convenient purchase, now we list each part for you, you can purchase ones you want from local distributor.

Drone Cover Housing	Drone Bottom Housing	A Propeller	B Propeller
Left protection ring	Right protection ring	Landing gear lampshade	Motor Holder
Receiver Board Holder	Power Button	Cushion	Steel Pipe Fixings
Spindle Steel Pipe	Copper ring	Transmission Gear	A propeller motor (Black white wire/ white connector)

B propeller motor (Red blue wire/ red connector)	**Left Front Lamp Board (Green LED / White Connector)**	**Right Front Lamp Board (Green LED / Red Connector)**	**Right Rear Lamp Board (Red LED / White connector)**
Left Rear Lamp Board (Red LED / Red connector)	**Receiver Board**	**Camera Board**	**Drone Battery**
USB Cable	**Screw Driver**	**Smart Phont Holder**	**Transmitter**

Important Notice

Since our company's products have been improving all the time,subject design and specifications are change without notice.
All the information in this manual has been carefully checked to ensure accuracy, if any printing errors, our company reserve the final interpretation right.

Troubleshooting

No.	Problem	Problem Cause	Solution
1	The controller indicator light is off.	1. Low battery.	1. Replace the controller battery.
		2. The batteries are incorrectly positioned.	2. Install the batteries following the polarity indicators.
		3. Poor Contact.	3. Clean between the battery and the battery contacts.
2	Failed to pair the drone with the controller.	1. Indicator light is off.	1. The same as above.
		2. There is an interfering signal nearby.	2. Restart the drone and power on the controller.
		3. Improper operation.	3. Operate the drone step by step in accordance with the user manual.
		4. The electronic component is damaged for fiercely crash.	4. To buy spare parts from local seller and replace damaged parts.
3	The drone is under-powered or can not fly.	1. The propeller is seriously deformed.	1. Replace the propeller.
		2. Low battery.	2. Recharge the drone battery.
		3. Incorrect installation of propeller.	3. Install the propeller in accordance with the user manual.
4	The drone could not hover and tilts to one side.	1. Improper Calibration.	1. Please refer to the Calibration Instruction.
		2. The propeller is seriously deformed.	2. Replace the propeller.
		3. The motor holder is deformed after violent crash.	3. Replace the motor holder parts.
		4. The gyroscope did not reset after a serious crash.	4. Put the drone on the flat ground for about 10s or restart the drone to calibrate again.
		5. Motor is damaged.	5. Replace the motor.
5	The drone indicator light is off.	1. Low battery.	1. Recharge the drone battery.
		2. The battery is expired or over discharge protection.	2. Buy a new battery from local seller to replace the battery or charge the battery in accordance with the use manual.
		3. Poor contact.	3. Connect and disconnect the battery.
6	Could not see the picture.	1. There is an interfering signal nearby.	1. Practice and read the cellphone controlling instruction carefully.
		2. Camera is damaged.	2. Replace Camera.
7	Hard to control by cellphone.	Not experienced enough.	Practice and read the cellphone controlling instruction carefully.
8	Can't altitude hold.	1. The propeller deformed seriously.	1. Replace propeller.
		2. The motor is damaged.	2. Replace the motor.
		3. Atmospheric pressure is not stable.	3. Refer the altitude hold mode of use manual .

FCC Note

This equipment has been tested 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, if not installed and used in accordance with the instructions, which 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.

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

FCC Notice:

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 device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement.
The device can be used in portable exposure condition with out restriction.

support@ipotensic.com

MADE IN CHINA