INSTRUCTION MANUAL

Q222

Specifications

CONTENTS OF THE BOX:

• 1 x Quadcopter
• 1 x 2.4 GHz remote (6x AA-batteries not included)
• 1 x 3.7V 730 mAh Li-po battery
• 4 x Spare propeller
• 1 x Charger
• 1 x Manual
• 4 x prop guards

SPECIFICATIONS:

• 2.4GHz Assembled quadcopter drone Ready-to-fly
• 6-axis Gyroscope
• 4 main engines
• 1 Li-po Battery 3.7V 730mAh
• Height: 58 mm
• Length: 375 mm
• Width: 136 mm
• Weight: 900 g

Safety precautions

• Read the manual carefully and completely
• This model is not suitable for children under 14 years and contains small parts
• Children should only use this model under the supervision of an adult
• Keep hands, face, hair and clothes away from blades.
• Stand out of reach of moving parts of the copter
• After using the copter ALWAYS disconnect the battery and remove it from the device
• The model and the transmitter must be switched off after use
• Always fly in an open and safe environment where you will not cause any danger to others
• For the remote control, we recommend AA batteries with a voltage of 1.5 to 1.2 volts
• For people without experience, we recommend that you learn to fly with an experienced user during your first flights
• Before each flight, test the distance limit of the transmitter
• Keep these instructions safe
• Always follow local laws and regulations! Contact your reseller when in doubt.

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DO NOT FLY:
 - **Around people or animals**
 - **Around large groups of people**
 - **In limited visibility or dark conditions**
 - **Winds above 2 Beaufort**
 - **Near high voltage pylons and / or other types of cabling**
 - **During thunderstorms, rain or high humidity. The device is not water-resistant.**

Prop guards

We highly recommend to use the propguards we provide with each model. This will not only protect your quadcopter, but also other people, your house interiour, walls and all other surroundings that could get injured or damaged if you lose control during flights.

Battery recycling recommendations

For the sensitive and rational conservation, protection and improvement of the quality of the environment, protection of human health and the preservation of natural resources, the user must send an unusable product to relevant facilities created to this purpose in accordance with the law.
The crossed out wheelie bin means that the product must be recycled (WARNING: do not throw it in your bin).
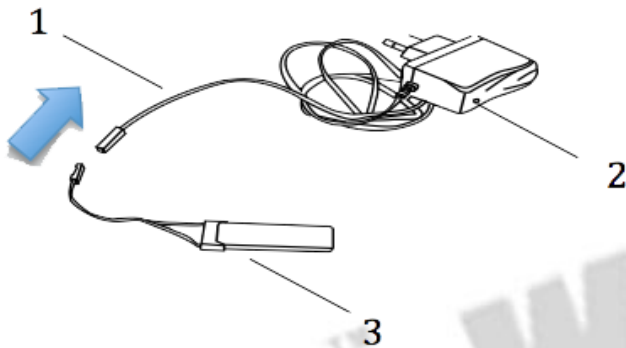
The user must return used batteries and rechargeable batteries. It is forbidden to dispose of used batteries in the bins containing household waste! Batteries / accumulators containing hazardous substances are marked with the crossed out wheelie bin. The symbol indicates that the product should be recycled. The chemical symbols for the respective hazardous substances are Cd (cadmium), Hg (mercury), Pb (lead). The used batteries can be disposed for free of charge at collection points in your community, stores or wherever batteries are sold. You are kindly requested to conform to your legal obligations and contribute to the protection of our environment.

Li-po Battery instructions

 - Keep the batteries out of reach of children
 - Non-rechargeable batteries should not be recharged
 - Unequally charged batteries or different battery types should not be used together
 - Use recommended batteries or similar
 - After using the product, remove the batteries if you will not use it again for a long period of time
 - The terminals must not be short-circuited
 - This model is equipped with a rechargeable Li-po Battery. Li-po batteries require special attention, follow the manual
 - The batteries must be charged with the charger supplied by WLtoys
 - When charging the battery, always ensure that you do so on a non-combustible surface
 - Do not leave charging without supervision
 - Always charge the battery to 100%
 - Ensure that the battery wires are not in contact to avoid a short-circuit
 - The ignition wires of the battery must not be modified or damaged
 - Never damage the battery mechanically (this could cause an explosion)
 - The battery should not be placed near children (unless you have an adult supervision)
 - The technical design of the battery must not be changed
 - Touching of damaged batteries can cause injury. If there is contact with skin or eyes, seek medical attention immediately!
 - Do not charge directly after the flight or when the battery is warm

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Battery charging
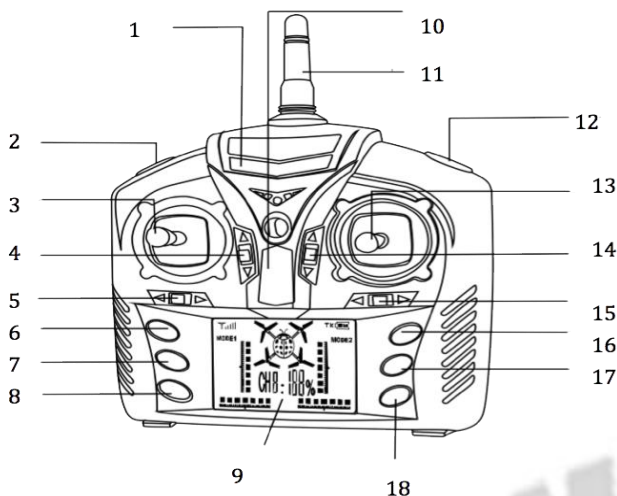
1. Charging wire
2. LED
3. Li-po Battery

Plug the charger into a wall socket and connect the battery to the charger. This can only be done in one way: by firmly connecting the charging cable. If the green light is on, the battery is fully charged and can be disconnected. Then do not forget to unplug the charger from the wall socket.

Green LED = Charged battery
Orange LED = Charging battery
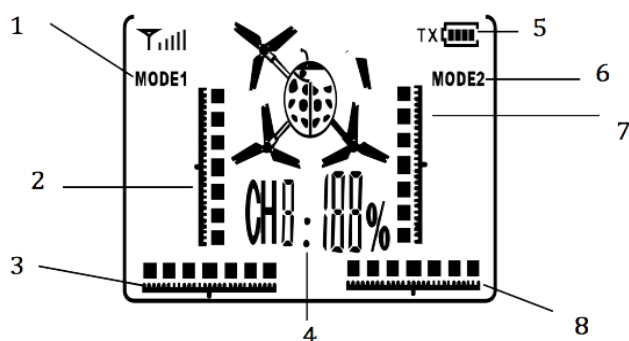Red LED = Battery is empty / Charging battery

Input : 220V
Charging Current : 500mA
Full Voltage: 4.2 +/- 0.03V

Warning : Always place the battery on a heat resistant surface and never leave it unattended!

Remote Control / Transmitter

1.   Power LED
2.   Module 1 : Water jet; bubble jet; video; basket up; lead single missile
3.   Throttle/Yaw control stick
4.   Throttle trim
5.   Yaw trim
6.   40% agility
7.   60% agility
8.   80% agility
9.   LCD display
10.   Power switch
11.   Antenna
12.   Roll (when 100%)
13.   Direction control stick
14.   Forwards and backwards trim
15.   Crab trim
16.   100% agility
17.   Lighting control
18.   Module 2 : Taking photos(Headless mode if available, press 2 sec)

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1. Stick mode 1/3 indicator
2. Throttle trim tips
3. Yaw trim tips
4. Percentage of the reaction
5. Transmitter battery indicator
6. Stick mode 2/4 indicator
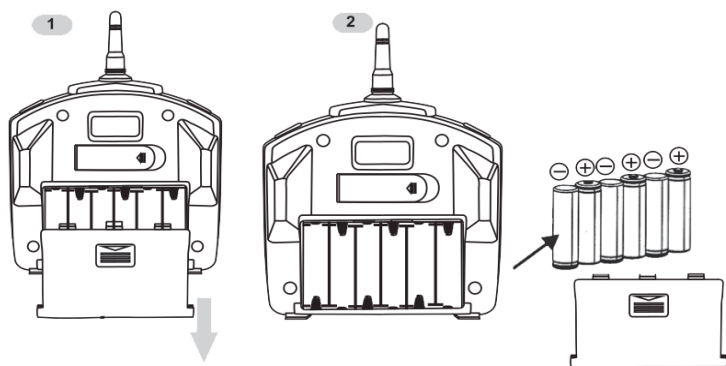7. Forwards and backwards trim tips
8. Crab trim tips

 - Using the throttle you can control the rotation axis of the drone. Using the directional joystick you can control the flight direction of the drone.
 - The mode available on this model is the mode 2 with the layout of the throttle on left. It is not possible to switch mode on this model.
 - The different calibration buttons help keep the drone stationary. Test this by pressing the accelerator and calibration buttons to maintain the drone in one place.
 - You can choose the percentage of the speed. The higher the value, the faster the reaction will be (e.g. 100% will be more responsive than 40%).
 - The two module buttons are used to activate different modules : photos / shots / basket.

Insert the battery by sliding the cover down. Then insert 6 x AA batteries as indicated under the cover.

Headless Mode Operation : Straighten the copter (red blades are in front) , long press Headless Mode button 2 seconds to enter into Headless Mode, the transmitter will start beeping; Long press Headless Mode button 2 seconds to exit, the transmitter will stop beeping.

Altitude hold

This model is equipped with a barometer. The barometer allows the quadcopter to hold altitude without using the remote.

Starting the copter:
- Connect the battery to the copter.
- Turn on the remote
- Trottle up/down to connect drone to remote
- Arm the quad by moving trottle to left bottom and direction to right bottom
- By holding it down for more than 2 sec. you use the throttle to make height. By holding it down for just one seconde, the copter
- Trottle up and it will fly to approx 1m altitude and maintain hight
- Adjust altitude with throttle up/down

Ending:
- Keep light button (middle right) pressed for 1sec and it will autoland
- Alternatively throttle down and when it is securily landed disarm the quad by moving trottle to left bottom and direction to right
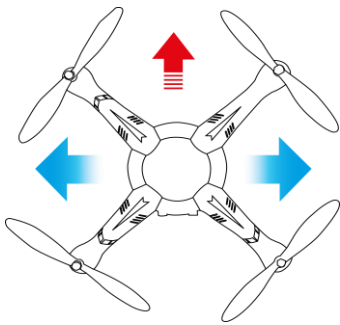
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Activation for the flight

1. Put the battery in the drone quadcopter and plug it to the connector of the drone.

2. Move the throttle (left stick in mode 2) down and turn on the remote control. (when beeping follow the activation method without throttle)

4. Move the throttle up and down, then the indicators light continuously and the connection is established between the drone and the transmitter.

1. Put the battery in the drone quadcopter and plug it to the connector of the drone.

2. Move the throttle (left stick in mode 2) down and turn on the remote control.

3. Wait for the controller to stop beeping and the copter should be connected
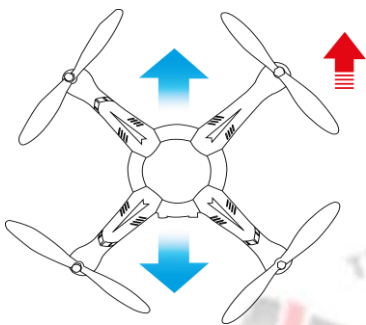
How to fly

Flying is really simple, but you need a little practice at first. Connect to www.wltoys.eu to watch educational films.
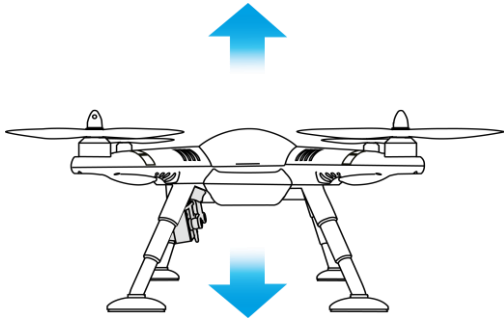
SIDEWARD

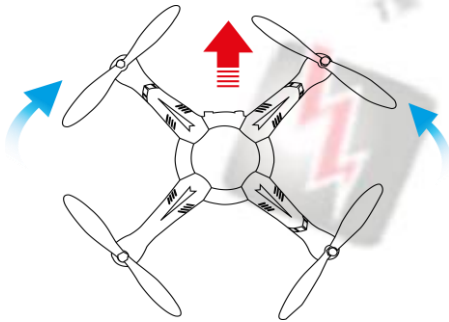**The directional lever serves to move the drone to the left or the right.**

FORWARD

Pushing the directional lever up and down makes your drone go forward or backward.

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ALTITUDE

Pushing the gear lever up and down makes your altitude rise or fall.

TURN

Pushing the gear lever from side to side, the drone will turn on its own axis.

Procedure to spare engine

Engines are brushed and eventually wear out. When worn out they need to be replaced. For more informations go to www.wltoys.eu.

Never go full speed for the first 3 flights. After 3 flights, blow out engines with air when possible.
Spare engines can be bought on www.wltoys.eu or with your reseller.

The first flight

1. For your first flight make sure to be with a person experienced in flying copters. We advise you to make your first flights on a relatively soft surface to protect the copter.
2. Find a location away from people, with a smooth surface and without obstacles. Trees, electric lines and water points in the immediate vicinity should be avoided!
3. Place your copter on the ground about 10 feet away from you. Mind that, when you have a quadcopter, the coloured blades indicate the front of the copter. It is easiest to position yourself behind the copter for an easier control.
4. Turn the copter on first. Then turn on the remote controll (for some models this will be the other way around). Some models require arming of the motors first. Turn on the copter as well as the controller. then move trottle up and down to connect. after this move throttle to the left low corner and the directional lever to the right lower corner at the same time, hold these down for a few seconds, this will arm the motors.
5. Start the engine and take off to about 1 meter from the ground. In this way you avoid the phenomenon called "ground effect". Near the ground the air currents behave differently than at a higher altitude and this will prevent you from losing control of the copter.
6. Then try to fly gently in one direction. If the engine flies away in the wrong direction, make a controlled landing and try again.

CAUTION

- Ensure that the copter in flight is always within sight and under control.

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- Always use a fully charged battery.
- When finished flying, always turn off the copter first, then the remote control.
- Do not use the copter when it has visible or mechanical damage.
- Always fly in an open and Jellyfished environment to avoid dangerous situations.
- Always stay out of reach of rotors.
- Remember to disconnect the battery of the copter after each flight.
- Ensure that you adhere to all the legal requirements that exist for your copter model in the country in which you are using it.
- If you lose control of the copter, disable the propulsion of the engines immediately by pushing the throttle lever down to turn it off.

Calibration

If the copter is unstable, resulting in frenetic flying in all directions, and rotates around its axis so that you have to constantly correct its flight, then the gyroscope is probably not calibrated properly. To perform recalibration, connect the drone to the transmitter (part Activation in the manual), then click on 100% button of the remote and move both sticks to the bottom left. When the calibration is performed, you will either hear a long beep or see flashing lights (on the PCB) or both.

Note: The calibration is done in the factory, it is usually not necessary to do it when you receive the product.

One key to return

When using the 'return to home' function, your quadcopter must be at least 20 meters away. Hold the 'return to home' button on your transmitter for 2 seconds. Your quadcopter will automatically return in its opposite direction and will descend. Be aware this quadcopter does not have a GPS, so it will not know the original position it took off and save this position as its 'home'.

When using this function the quadcopter will return in the opposite direction and slowly descends to the ground. So, watch out when the quadcopter is flying really low or high, it might fly over your head or descend to quickly. NEVER use this function when trees, water or any other obstacles are nearby your quadcopter can crash into.
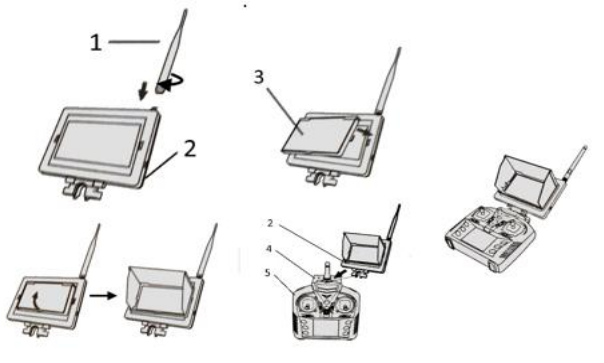
Troubleshooting

1. The receiver LED blinks continuously for more than 4 seconds after the quadcopter battery have been inserted. No response to the command input. The transmitter is not connected to the device. Repeat the power-on initialization process.
2. No response from the quadcopter after the battery have been connected. There is probably contact failure on the battery terminals. Turn on the transmitter and ensure that the battery of the vehicle is correctly inserted. Replace the battery and ensure good contact at the battery's connections. Use fully charged batteries in the remote.
3. The motor does not respond to the throttle stick and the receiver flashes. The quadcopter's battery is exhausted. Charge the battery or replace it with a charged battery.
4. The main rotor continues to rotate after landing. Confirm that the gear lever is oriented downward.
5. The main rotor rotates but the device does not take off. The blades may be distorted or the quadcopter battery is exhausted. Charge or replace with a fully charged battery and / or replace the blades.
6. The quadcopter suffers of strong vibrations. The blades are distorted. Replace the blades.
7. The tail is not balanced after adjusting the clip or speed is inconsistent in the left / right pirouette. Tail rotors are probably damaged. Replace the main wing and / or the main engine.
8. The quadcopter was still moving forward after the adjustment of the levers during hover. The gyroscope is not correctly calibrated. The gear lever is placed too high or too low. The boot refines the calibration therefore restart on a flat surface.
9. You can not fly, the helicopter falls. The motor is probably fall out or the gears are loose. Reinstall the motor and tighten the gears.

Spare parts

The copter is not sensitive to crashes, but in case of extreme drops it is possible that some parts may break. All parts can be ordered and easily assembled. Please contact your dealer or visit www.wltoys.eu for more information.

FPV

Steps to install the FPV set on your copter:

1. screw the antenna (1) on the FPV monitor (2)
2. Install the sun block cover (3) on the FPV monitor for better visibility during sharp sunlight.
3. Mount the FPV monitor (2) on remote (5) by using the FPV mount bracket (4) and screw set.
4. Turn the monitor on on the right side and then the camera which is mounted to the copter. Make sure the Antenna of the camera is extended and connect the camera to the FPV socket of the copter.

WIFI

This model comes with a Wifi camera module.
With the aplication on android and iOS you are able to fly your drone, and fly with FPV (First Person View). Your smartphone can

Connecting the quadcopter:
- Download the app with the QR code which is inside the box
- Connect the battery of the quadcopter
- On the mobile device look for the Wifi network starting with LG. Connect
- Start the app and press play
- Either steer the quad with the remote or with the phone

Steering with the phone:
- Toggle button 6 to on. This enables on screen steering like standard remote
- Toggle gyro symbol (button 5) on to steer with mobile device gyroscope. Throttle is always on screen

Application
1. Take picture (saved to camera roll)
2. Make video (saved to camera roll)
3. Go to media library
4. Adjust assertiveness (30/60/100%)
5. Steer by gyroscope
6. Eneble/disable steering on phone
7. Rotate image
8. Throttle/rudder
9. Elevator/aileron
10. Rudder trim
11. Aileron trim
12. Elevator trim

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recommend that you read the entire manual before your first
flight.

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You can find instructional videos and buy spare parts on our website www.wltoys.eu.
For technical support contact your reseller.

WARNING:
Non-compliance with safety rules may cause damage, injury and / or dangerous situations.

Warranty

The use of this product is entirely at your own responsibility and at your own risk. Since we have no control beyond this manual on
when and how you use our product (both flying and maintenance), we are not responsible for any damages or costs incurred by
improper use.

This warranty covers manufacturing and material defects in the context of normal use. We take no responsibility for damage
caused indirectly.

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The following are excluded from the warranty:

• **Damage caused by the failure to comply with security measures or instructions**
• **Extreme treatment which can not be contained in the usual standards**
• **Overloading the vehicle or external influences**
• **Homemade modifications on the product**
• **The damage caused by the loss of control of the vehicle**
• **Electric defects due to voltage overload or lightning**
• **Normal wear and tear of the device and parts**
• **The costs of transportation, shipping or insurance**
• **The damage caused by the humidity**
• **The damage caused by the loss of the product**
• **After three flights the warranty of brushed engines is void**