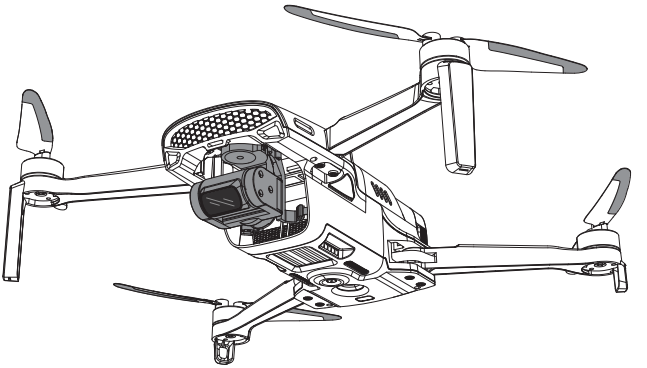
T210 MINI

Operation Guide v1.0 2022.12.23



www.walkera.com

Catalogue

Understand the flight safety 4
Disclaimer & Warnings 4
Know your aircraft 5
Know your remote controller 6
Parameters 7
Check Battery Level 8
Charging 8-9
Download the WK Fly Application 9
Introduction of the WK Fly APP interface 9-11
Preparing the remote control 12
Prepare the aircraft 12-13
Ready to fly 13-14
Flight Control 14-18
To end the flight 18
Gimbal control 19
Camera control 19-20
Intelligent flight function description 20-21
Additional instructions
Description of downward vision system and TOF ranging system 22-23
Calibrating the Aircraft Compass 23-24
Remote control joystick modes switching 24
Pair the frequency 24
Battery usage instructions and storage safety 25
FCC Statement 26

 © Walkera All Rights Reserved

Understand the flight safety

Use of the product T210 Mini may pose certain safety risks. It is not suitable for people under the age of 14. The Safety Summary contains only a portion of the flight safety knowledge, so be sure to read the entire Quick Start Guide carefully to avoid property damage or even personal injury due to improper operation.

☆This product uses 2.4GHz high-definition map, should fly in an open without shielding and electromagnetic interference environment.

☆This product is suitable for people who have experience in operating models and who are not less than 14 years old.

☆Do not fly in bad weather, such as strong wind, snow, rain, fog weather, etc.

☆Choose an open space without tall buildings around it.A large use of reinforcement buildings will affect the work of the compass, and will block the GPS signal, resulting in the positioning effect of the aircraft is worse or even impossible.

☆When flight, stay away from high speed rotating components (eg. propeller, brushless motor).

☆When flying, keep in line of sight, away from obstacles, people, water, etc.

☆Do not fly in areas such as high-voltage line, communication base station or transmission tower to avoid interference with the remote control.

☆Do not fly in no-fly areas restricted by relevant laws or regulations.

☆Do not use the throw to fly method to take-off the aircraft in a crowded place.

☆Flying at an altitude of about 4,500 meters, due to environmental factors, the aircraft battery and power system performance will decline, and the flight performance will be affected.

Disclaimer & Warnings

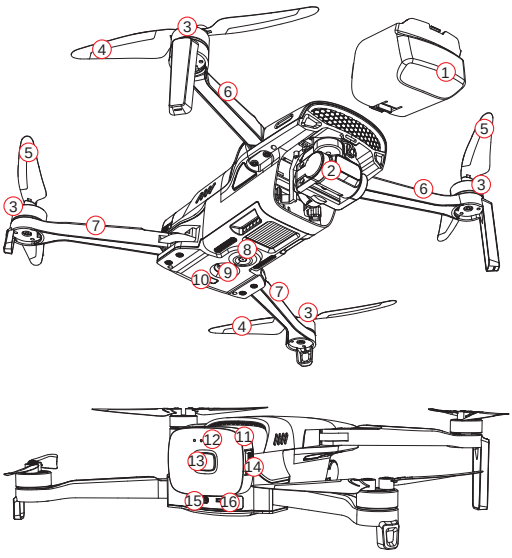
There are safety risks associated with the use of the aircraft, and is only suitable for people aged 14 and above who have experience in operating models, not for people under the age of 14. Keep children away from the aircraft, and special care must be taken when operating it in scenes where children are present. Please read this document carefully before using this product. This statement is of great importance for the safe use of this product and for your legal rights.

The product is a multi-rotor aircraft and will provide an effortless flying experience when the power supply is working normally and all components are undamaged. Walkera reserves the right to update this disclaimer at any time. It is important that you read this document carefully to understand your legal rights, responsibilities and safety instructions before using this product; failure to do so may result in property damage, accidents and personal safety hazards. Once you use this product, you are deemed to have understood, approved and accepted the terms and conditions of this statement in its entirety. The user undertakes to be responsible for his or her own actions and for all consequences arising therefrom. The user undertakes to use this product only for legitimate purposes and agrees to these terms and conditions and to any related policies or guidelines that Walkera may establish. To the fullest extent permitted by law, in no event will Walkera be liable for any indirect, consequential, punitive, incidental, special or criminal damages, including damages resulting from your purchase of, use of, or inability to use this product (even if Walkera has been advised of the possibility of such damages).

The laws of some countries may prohibit the exemption of warranties, so your rights may vary from country o country. Walkera reserves the right of final interpretation of these terms and conditions, subject to the laws and regulations of the country in which you reside. Walkera reserves the right to update, revise or discontinue these terms and conditions at any time without prior notice.

Know your aircraft

- The T210 MINI features a mainstream lightweight, foldable design that is unprecedentedly easy to use and carry, while maintaining flight and usage quality.
- Adopt GPS/GLONASS/BeiDou tri-mode satellite positioning navigation system, ensuring more accurate and safer flight.
- Equipped with downward vision system and TOF ranging system, it can achieve stable flight and hovering at ultra -low altitude or indoors.
- A self-developed leading flight control system is used, which provides agile, stable and safe flight performance, and can achieve various new intelligent flight modes such throwing flight, etc
- Using high-precision three-axis mechanical anti-shake and stabilized gimbal, the camera can steadily take 4K HD video and 48 megapixel photos.
- A new 2.4GHz long-distance digital encryption transmission technique provides stronger anti-interference ability and longer distance of video transmission.



1) Gimbal shield (remove it before flight)
2) All-in-one gimbal camera
3) Brushless motor
4) CCW blade( )
5) CW blade( )
6) Front arm
7) Rear arm
8) Downward vision system
9) TOF ranging sensor
10) Aircraft status indicator
11) Battery
12) Battery level indicator
13) Power button
14) Battery snap
15) Type-C upgrade/charging port
16) MicroSD card slot

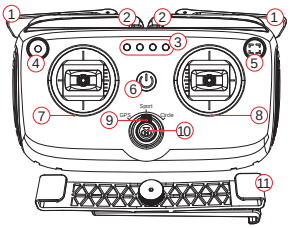
*** 1) Before using T210 Mini, please watch the instructional video in WK Fly App to upgrade related firmware and calibration related items and read the "Operation Guide" carefully to avoid property damage or even personal injury caused by improper operation.**

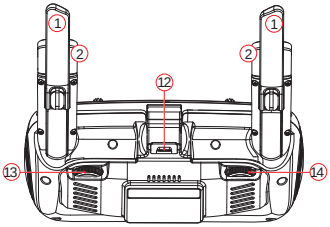
2) The high-speed rotating propeller is dangerous. The operator should keep a safe distance from the aircraft and keep the aircraft away from people, buildings, trees or other obstructions to avoid collision.

 © Walkera All Rights Reserved

Get to know your remote controller

This remote control has a built-in a ground receiving terminal of 2.4G digital image transmission system . which can achieve a real-time display of high-definition images on a mobile device by using APP,with a foldable holder capable of holding mobile devices.





1) Antenna
2) Mobile Phone Holder
3) Power Indicator
4) Video Button
5) Photo Button
6) Power Button
7) Left Stick
8) Right Stick
9) Flight Mode toggle switch
10) Return To Home Button
11) Tablet Stand
12) Charging/Upgrade Port
13) Right dial (camera exposure compensation adjustment)
14) Left dial (control gimbal pitch)

The stick mode of the remote control is divided into American hand, Chinese hand and Japanese hand. The factory default stick mode is "American hand" (left-hand throttle), which can be switched in the APP settings. It is recommended that beginners use American hand as the control method.

American hand for left hand throttle:

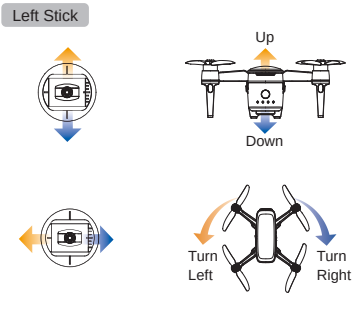
The left stick (THRO/RUDD) controls the aircraft to ascend/descend and turn left/right; the right stick (ELEV/AILE) controls the aircraft to go forward/backward and fly left/right);

Chinese hand for right hand throttle:

The left stick (ELEV/AILE) controls the aircraft to go forward/backward and fly left/right; the right stick (THRO/RUDD) controls the aircraft to ascend/descend and turn left/right;

Japanese hand for right hand throttle:

The left stick (ELEV/RUDD) controls the aircraft to go forward/backward and turn left/right; the right stick (THRO/AILE) controls the aircraft to ascend/descend and fly left/right;



Notice：
Please fly your aircraft in the open air without shelter and without electromagnetic interference.

Parameters

• Aircraft

Symmetric Motor Wheelbase:	241.6mm
Body Size:	167.4×217.8×57mm(Unfold); 143×82.8×57mm(Fold)
Mas Take-off Weight:	249g
Maximum Rise Speed:	8 m/s(adjustable)
Maximum Decline Speed:	5 m/s(adjustable)
Maximum Horizontal Flight Speed:	Loiter Mode: 5m/s, Sport Mode: 12m/s(adjustable), AltHold Mode: 25m/s (wind environment)
Maximum Tilt Angle:	Loiter Mode: 55°, Sport Mode: 55°, AltHold Mode: 55°
Maximum Rotation Angle Speed:	150°/s
Maximum Flight Altitude:	4500m
Maximum Withstand Wind Speed:	18m/s
Battery Specification:	7.7V，2250mAh,LiPo 2S，10C
Maximum Flight Time:	30 minutes(measured in a windless environment at sea level, 3m/s automatic cruise)
Working Ambient Temperature:	-10℃ to + 45℃
Hovering Accuracy Range:	Vertical ±1.5 m, horizontal ±0.5m (GPS works)

• Downward looking positioning system

Precise ranging range	0.25m~5m
Visual hover range	0.25m~10m

• Camera

Image Sensor:	1/2.3-inch CMOS; 48 million effective pixels
Lens:	FOV83°; 4.49mm; f/2.6 aperture
ISO Range:	100-3200
Electronic Shutter:	1/2-1/4000
Photo Resolution:	8000*6000(48MP)/4000*3000(12MP)/3840*2160(8MP)
Video Resolution:	UHD:3840*2160 (4K 30fps) ;
Storage Maximum Code Rate:	100Mbps
Supported File System Format:	Fat32; exFat
EXFAT Image Format:	JPEG; RAW
Video Format:	MP4
Support Memory Card Type:	Micro SD card, maximum support of 128G, Fat32 file system format, transmission speed of Class10 or above or UH S-1 rating

• Gimbal

Stability System:	3-axis (pitch, yaw, horizontal roll)
Controllable Rotation Range:	Pitch: -90° to 30°
Maximum Control Speed:	Pitch: 5°/s~100°/s adjustable;
Angle Control Accuracy:	static: ± 0.01°; dynamic: ± 0.02°; stabilization: ± 0.01°

• Remote Sontroller

Dimensions (L x W x H):	173.37x100.85x70.6mm
Working frequency:	2.4G
Signal range:	About 5km (open without shelter, no electromagnetic interference)
Built-in battery:	7.4V 2200mAh Li-po 2S
Mobile device holder:	Applicable to tablet and phone

 © Walkera All Rights Reserved

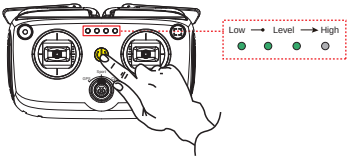
Check Battery Level

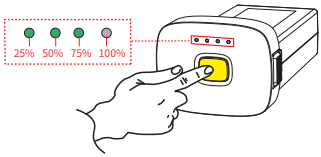
Remote controller battery:

Short press the power switch to turn on the battery indicator light(displaying the battery level) to check the battery level.

Aircraft battery:

Short press the power switch to turn on the battery indicator light(displaying the battery level) to check the battery level.

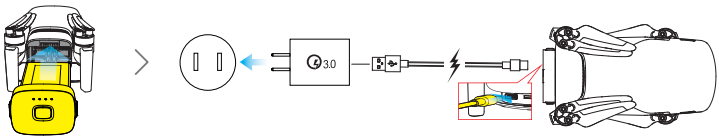




Charge

Aircraft battery charging

Tips: The aircraft battery must be installed on the aircraft to charge, the aircraft is compatible with the market standard Type-C interface, please use a USB charger that meets the QC3.0 protocol (such as mobile phones, cameras and other digital product USB chargers) for charging. If you encounter smoke, odor, or night leakage while charging the aircraft, do not continue charging, please transfer to our company for repair.



The battery indicator flashes green to indicate the start of charging.the battery indicator turns off when fully charged.

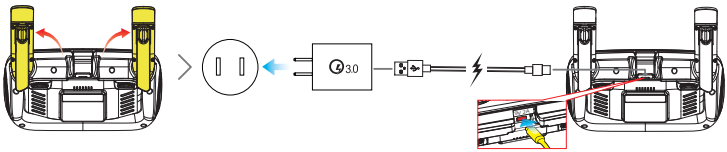
Note:

Charging is not supported in the boot state, and the aircraft cannot be turned on during charging.

After the flight, the aircraft battery temperature is high, and the aircraft battery must be charged after the aircraft battery drops to room temperature.

Remote control charging

Tip: This remote control uses a built-in integrated rechargeable lithium battery, which is compatible with the market standard Type-C interface. Please use a USB charger (such as a USB charger for digital products such as mobile phones and cameras) that meets QC3.0 protocol for charging. If there is smoke, peculiar smell or liquid leakage when charging the remote control, please do not continue to charge the remote control, please send it to our company for repair.



Battery indicator flashing green indicates that charging starts; the indicator is off when fully charged.

Caution:
Walkera will not be responsible for any consequences of charging with a charger that is not officially designated by Walkera.

Download the WK Fly Application

WK Fly APP supports Android 5.1 and above, HarmonyOS 2.0 and above, and Apple iOS9.0 and above mobile phones and tablets.For Android system or Hongmeng system mobile device, please open the browser and enter the URL (https://fly.walkera.cn/a/) or scan the QR code below to download and install the APP; for Apple iOS system, please go to the APP Store and search for WK Fly to download and install.

Android or HarmonyOS system scan the code to download

※In order to ensure flight safety, if the aircraft is not connected, logged in to the App, and Chinese mainland the user does not bind the mobile phone to complete the registration information, the height of the aircraft will be limited to 30 m and the distance will be limited to 50 m. Users who use aircraft in Chinese mainland need to complete real -name registration in accordance with the relevant regulations of the Civil Aviation Administration of China, please register through the UAV real-name registration system of the Civil Aviation Administration of China, or register directly in the WK Fly App.
For more information, visit https://uas.caac.gov.cn

Introduction of the WK Fly APP interface

In this interface, you can preview the real-time HD video and photos taken by the T210 Mini, as well as dynamically set the parameters such as the aircraft, voice controller, camera gimbal and battery.

Camera windowed interface

 © Walkera All Rights Reserved

1) Return: Return to the previous level.

2) Device connection status: green Device Connected appears on the device connection; device disconnection shows red Device Unconnected.

3) Time of flight: the time of the aircraft flight.

4) Flight mode: Click the icon to expand the list of flight modes. In the list, AltHold, Auto, Follow,Loiter, RTL, Land, Sport and other flight modes. Select the flight mode by selecting the intended flight mode in the list.

5) Aircraft battery information: Click the icon to expand and view the current power and voltage information of the aircraft battery.

6) GPS status: Click the icon to expand to view the number of GPS stars and GPS positioning mode received by the current aircraft.

7) HD signal intensity: shows the intensity of the transmission signal between the aircraft and the voice handle.

8) Notification information: Click the icon to view the list of notification information.

9) Settings: Click the icon to expand the Settings menu: there are vehicle settings, battery information and settings, system settings.

" " **aircraft setting:** RTL Height setting,Flight safety settings(Fly Speed,Steering sensitivity,Limit Height, Fence Enable,Limit Distance, Gimbal Roll,Follow Me Alt,Take Point,Lost Action)Sensor setting,New Model switch.

" " **battery setting:** it has battery remaining power, current voltage, current temperature, series number, charge and discharge shield ring times; low power automatic return switch.

" " **system setting:** equipped with map settings; Stick Mode,Trajectory switch ,Live setting; firmware upgrade; Viedo Delayon setting and hardware Decodec.

10) Preview resolution: The image preview quality of the camera window (i.e., image transmission quality).

11) Remote control joystick mode: Displays the currently set remote control joystick mode.

12) Aircraft TF card capacity: Display the current aircraft TF card capacity information in real time.

13) Exposure: Displays the current exposure value of the aircraft camera.

14) Camera working mode switch: with each click of the icon, the camera working mode will switch between the photo and the video.

15) Camera shutter icon: In photo mode, click this icon to take a photo at a time; in video mode, click the shutter icon to start recording, click the shutter icon again to stop and save the video.

16) Camera Settings: Click the icon to expand the camera Settings interface, which has professional Settings, photo settings, video settings and other settings.

Profe ssional setting: it can be set with ISO sensitivity, shutter speed, exposure compensation, white balance, etc.

Photo Settings: you can set the shooting mode, photo format, photo size (quality), etc.;

Video setting: you can set the preview resolution, preview code rate, video code rate, video resolution, video display mode.(With the same preview resolution, the greater the preview code rate, the better the picture quality and the transmission distance accordingly).

• • • Other settings: grid (grid setting); anti-flicker (on / off anti-flicker); defogging (on / off); formatting TF card (in-aircraft TF card), TF card capacity information; photo animation switch; photo sound switch, etc.

17) Media Library: Click the icon to open the location of photos and videos taken by the aircraft, click on the pictures or videos to quickly share, download or manage media files.

18) Aircraft Status Parameters:

H Height: Vertical distance of the aircraft to the return point.

D Distance: Horizontal distance between the aircraft and the return point.

V.S Vertical speed: the flight speed of the aircraft in the vertical direction.

H.S Horizontal speed: the flight speed of the aircraft in the horizontal direction.

19) Posture thumbnail icon: Click this icon to expand the attitude ball suspension window.

20) Map / camera picture small window: Click the icon map window to swap with the camera picture window (the map switch to the full-screen large window, the camera screen switch to the small window).

21) Hide the small window: Click on the icon to hide the map/camera picture small window.

22) Zoom in on the map: Click on the icon to enlarge the map.

23) Scale down the map: Click on the icon to narrow down the map.

24) Take-off/RTL mode icon (when the aircraft is not taking off, the takeoff icon is displayed; after the aircraft takes off, the RTL mode icon is displayed): When the auto takeoff condition is reached, click the takeoff icon, and the aircraft will take off automatically and hover at a certain height; when the aircraft has taken off, click the RTL mode icon, and the aircraft will abort all flight missions and automatically return to home point landing.

25) VR mode icon: Click this icon, the camera window preview video will switch to display in SBS mode (side by side). With a pair of VR glasses, it allows users to enjoy an immersive first person view (FPV) flight experience, and relying on the gyroscope of mobile phone, achieve head tracking function to control the flight gimbal camera pitch and yaw angle.
In VR mode, the information displayed on the interface includes aircraft battery information, flight mode, real -time status parameters, etc.
Dragging up or down on the left side of the VR mode display interface can switch the video display mode; Dragging up or down on the right side of the VR mode display interface can adjust the video display window size.

26) Intelligent Flight Function Icon: Click the icon to expand the intelligent flight mode selection interface, which includes various intelligent flight modes such as Intelligent Accompany Flight, Time-Lapse, and auxiliary functions.

27) Position display switch: Click the icon to select the aircraft position or remote control(mobile device) position:
click the icon " ▲ " to display the aircraft position;
Click the icon " Ⓖ " to display the remote control (mobile device) location.

28) Map lock: Click the icon to lock / unlock the north (upper, north, south, south, west, right, east);
" " to lock the north state;
" " to unlock the map status;

29) Erase the flight track: Erase the flight track displayed on the map interface.

30) Map switching: Click the icon to expand the map type switching options.

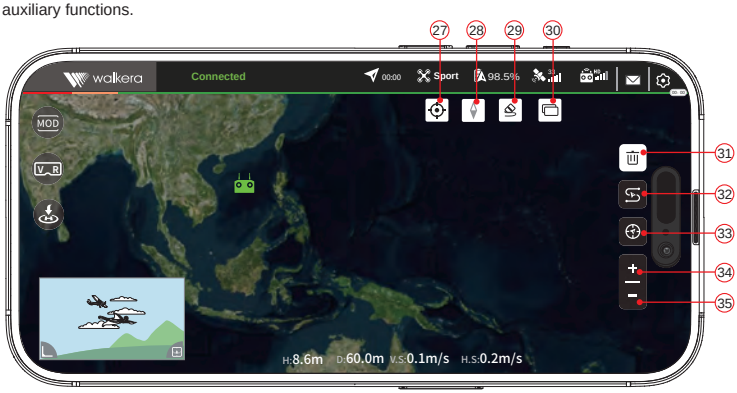
31) Clear the route: clear Except for the points that have been up to the aircraft.

32) Show/hide traces: Click the icon to display/hide the flight track of the aircraft on the map window.

33) Map follows the aircraft: Lights up the icon map to follow the movement of the aircraft, and the aircraft is always in the center of the map.

34) Amplify: Click on the icon to enlarge the map.

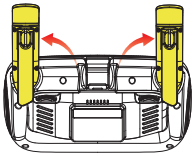
35) Shrink: Click the icon to shrink the map.



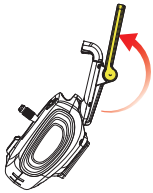
Map window interface

 © Walkera All Rights Reserved

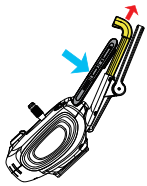
Preparing the remote control



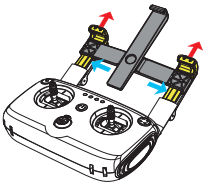
Expand the mobile phone holder



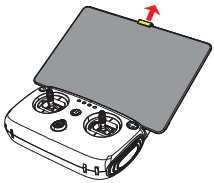
Expand the antenna



Pull the mobile phone holder upwards and hold it, and after placing the mobile phone, release the hand pulling the mobile phone holder to clamp the mobile phone.



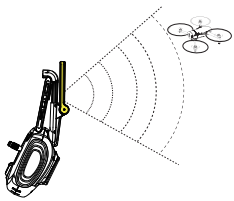
Pull the mobile phone bracket upwards in turn and hold it, insert the mobile phone bracket into the tablet bracket after placing it in the tablet bracket, and finally release the hand that pulls the mobile phone bracket.



Pull the tablet stand up and hold, and after placing the tablet, release the hand that pulls the tablet stand to clamp the tablet.

Precautions:

1) Before using the aircraft, please check whether the antenna is placed as required (the antenna is vertically upward when the remote controller is held).
2) Adjust the azimuth and distance between the controller, the remote control and the aircraft in time, and ensure that the antenna of the remote control is always upright to obtain the best communication;
3) Do not use other communication devices of the same frequency band at the same time to avoid interference to the remote control signal.

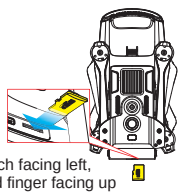


Always keep the antenna upright

Prepare the aircraft

The aircraft is shipped in a stowed state, please follow the steps below to unfold the aircraft.

1) Install the battery and MicroSD card.
2) Remove the gimbal protection latch
3) Unfold the front arms and front propellers.
4) Unfold the back arms and back propellers.



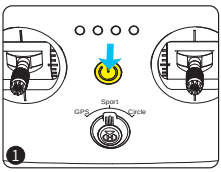
Notch facing left,
gold finger facing up

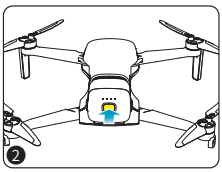
Ready to fly

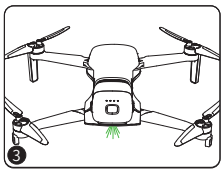
Power on and connect

⚠ **Note: Before the aircraft is powered on, make sure the Camera shield is removed to affect the aircraft self-test.**

1) Long press the power switch to turn on the remote control.
2) Short press the battery power switch once, then long press the power switch for 3~5 seconds to turn on the aircraft.
3) Put the aircraft in the horizontal position, wait until the aircraft status indicator turns from yellow light flashing fast to green light flashing slow, and the buzzer turns to not beeping, which indicates the success of connection and pairing.







Connect mobile devices

Open the WLAN setting item of the mobile device, wait for about 30 seconds, when WK-GRD-XXXXXX appears in the available WLAN list, click " WK-GRD-XXXXXX " and enter the password " 12345678 " to connect, exit the setting after successful connection interface.

Download offline maps

Find the "WK Fly" icon on the desktop of the mobile device system and click Run WK Fly APP→ Click "**Offline Map**" → Drag and zoom the map on the screen with two fingers, place the map area to be downloaded in the yellow box, then click "Download" to download the offline map of the area, click " < " in the upper left corner of the APP to return to the main interface after the download is completed.

Activate and fly the aircraft and bind the device

The new T210 MINI must be activated and bound to the device through the WK Fly App, please turn on the power of the aircraft and the remote control respectively, run the WK Fly App after connecting the mobile phone, and operate according to the interface prompts. An internet connection is required during activation.

Click " CONNECTION GUIDANCE " → on the main interface Activate the aircraft and bind the device according to the interface prompts → Swipe left or right to find " T210 MINI " → Then click " GO FLY " to enter the flight interface.

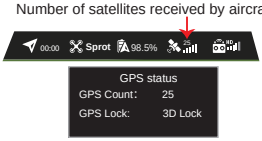
 © Walkera All Rights Reserved

Note: Before flying, download an offline map of the area you plan to fly(Download offline maps when the mobile device is connected to the Internet).

Description of GPS satellite positioning signals

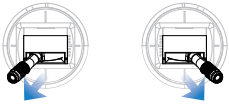
Click the GPS status icon of the aircraft in the status bar at the top of the mobile device APP to display the GPS status window of the aircraft to view the GPS status.

Number of satellites received by aircraft



Motor Unlock

After the code is successfully matched, move the left & right sticks down and toggle them outward simultaneously and hold still until the motor rotates. Once unlocked, the motor will rotate. then , quickly release the stickers .



Motor Lock

When the aircraft is landed, move the throttle stick down and hold for 2 seconds. The motors will then stop.

Flight Control

Notes:

1. **Make sure the remote controller, aircraft battery and mobile device are fully charged;**
2. **Make sure the aircraft has received the satellite positioning signal and the GPS status icon in the APP is green (the number of stars is greater than 10);**
3. **Please check and confirm the stick mode of the remote control before taking off (check in the upper right corner of the APP);**
4. **Please switch the flight mode before taking off (check the current flight mode on the mobile device APP interface);**
5. **Please unlock the motors before taking off.**

Manual take-off

Perform the following stick movements to start the motor, then slowly push the throttle stick upward to take off.

Manual landing

Slowly pull down the throttle stick until the aircraft touches the ground. After the aircraft touches the ground, pull the throttle stick to the lowest position and hold it for 2 seconds, then the motor stops.

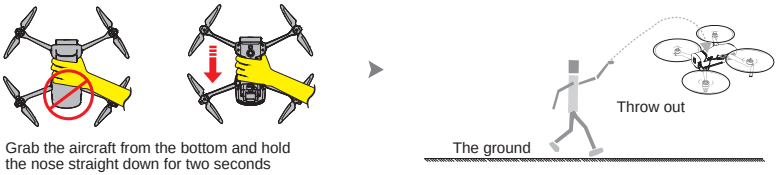
Automatic take-off

First, perform the following stick movements to start the motor, then toggle the Flight Mode toggle switch of the remote control to the "GPS" position on the left, and finally click the take-off icon on the APP interface, and the aircraft will take off automatically (the default height is 3m).

Takeoff in Throwing Mode

After GPS positioning, grab the aircraft from the bottom of the aircraft and turn the nose of the aircraft vertically downward for about 2-3 seconds to trigger the throwing mode, the aircraft will make a "beep"sound and the WK-V8 controller voice broadcasts "You are ready to fly, please perform the throwing action within ten seconds". After being thrown, the aircraft will fall freely for 0.5 seconds, the motor will be unlocked automatically, the aircraft will automatically adjust its attitude, and hover automatically (height 2~2.5 meters).

Note:
Each time it enters the throwing mode, the state will be automatically maintained for 10 seconds, and the buzzer will stop beeping after 10 seconds. Please throw the aircraft within 10 seconds after it enters the throwing mode. If the time is exceeded, please re-enter the throwing mode and throw again.



Grab the aircraft from the bottom and hold the nose straight down for two seconds

⚠ Warning

1) Do not release the aircraft in a crowded place by taking off.

 © Walkera All Rights Reserved

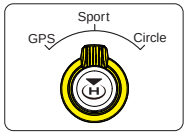
2) When the aircraft is released by throwing, it is strictly forbidden to grab the aircraft or the propeller from the top of the aircraft, otherwise the consequences will be at your own risk.
3) Only when the aircraft has received the GPS satellite positioning signal and the signal is good (the number of stars is greater than 10) and can be used to fly.
4) After the aircraft buzzer sounds, please throw the aircraft out within 10 seconds, otherwise it will automatically exit the throwing mode after timeout.
5) After entering the throwing mode, it is strictly forbidden to throw downwards or hold the aircraft downwards. When throwing, try to throw upwards or flatly forward.
6) After tossing, please switch the flight mode according to your needs.

Sport Mode

After the aircraft is powered on for the first time, unlocking and taking off will default to sports mode; When the aircraft is in the air, toggle the Flight Mode toggle switch of the remote control to the "Sport" position, the aircraft will be in sports mode.

Attentions:

1) The aircraft will default to sport mode for the first flight after each power-on.
2) In sports mode, it has the functions of altitude, fixed point and brake, and the flight speed is faster.
3) If the GPS signal is poor or there is no signal, only the height can be fixed, not the point.

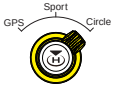


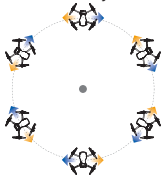
Circle Mode

When the aircraft is in the air and the flight mode is in GPS(Loiter) mode, Toggle the Flight Mode toggle switch of the remote control to the "Circle" position on the right end or click the icon MOD in the APP interface→ and then click the “Lock Assist” button→ Finally, click the "Circle" button in the pop-up floating window, and the aircraft will enter the circle mode.

Note:

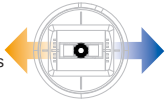
The center point of circle flight can be determined by clicking the lock button. You can turn on the waypoint marking function in the right column of the main interface of the App to check the location of the center point of circle on the map. If the target is not locked, the center point of circle will be 10 meters in front of the aircraft by default.



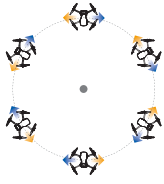


1) When entering the automatic circle flight, the aircraft is in a hovering state, and the roll stick (AILE) is toggled left or right to set the speed and direction of the circle (-5m/s~+5m/s, the default is 0m/s) to fly in circles.

Dial to the left
Clockwise circles



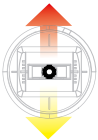
Dial to the right,
Counterclockwise circles.

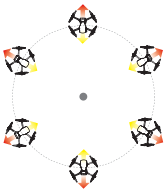


Speed: the larger volatility toggling and longer holding time, the faster circling.The slower on the contrary.

2) Move the tilt stick (ELEV) up or down to change the radius of the circle to control the aircraft to approach or move away from the target (5~50m, the default circle radius is 5m).

Pull up to increase the circle radius.





Pull down to reduce the circle radius.

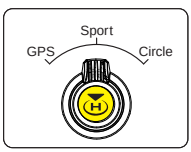
★**Note: Before operation, please check and confirm the current joystick mode of the remote control (check in the upper right corner of the APP).**

☆Adjust the surround direction (roll rocker AILE): For American hands or Japanese hands, move the right stick to the left or right; for Chinese hands, move the left stick to the left or right.

☆Adjust the surround radius (pitch rocker ELEV): For Chinese hands or Japanese hands, move the left stick up or down; for American hands, move the right stick up or down.

RTL Mode

During the flight, long press the return button "" on the remote control or click the return icon "" on the left side of the mobile device APP interface, the aircraft will enter the return mode and automatically fly to the take-off point and land; after the automatic return, it will automatically exit the return mode.



long Press

Click

The aircraft provides users with two different ways to return to home, which are intelligent return and uncontrolled return.

Horiø ntal distance between aircraft and Home point >20m

a. When the aircraft flight altitude is higher than the set RTL Height, the aircraft will maintain the current altitude and fly back horizontally to the top of the Home point , then landing vertically.

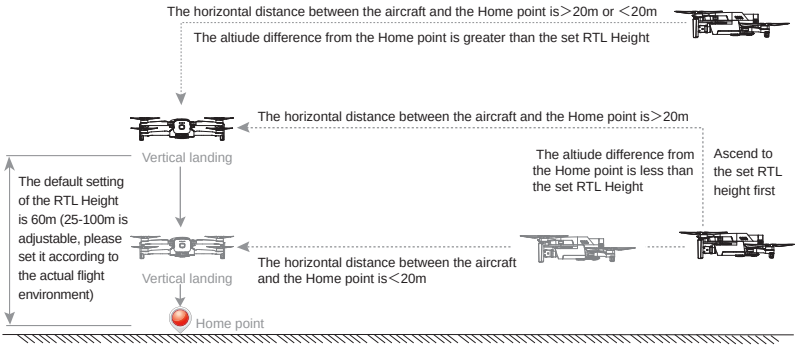
b. When the aircraft flight altitude is lower than the set RTL Height, he aircraft will climb vertically to the set RTL hight and fly back horizontally to the top of the Home point , and then landing vertically.

The horiø ntal distance between aircraft and Home point <20m

a. When the aircraft flight altitude is higher than the set RTL Height, the aircraft will maintain the current altitude and fly back horizontally to the top of the Home point , then landing vertically.

b. When the aircraft flight altitude is lower than the set RTL Height, the aircraft will maintain its current altitude and fly back horizontally to the top of the Home point , then landing vertically.

 © Walkera All Rights Reserved

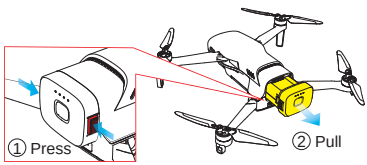


Attentions:

1) Do not operate other switches,buttons or click any other icon after long press the return button "" on the remote control or click the return icon "" on the left side of the mobile device APP interface
2) When the aircraft loses the signal of the remote control, it will automatically enter the Uncontrolled RTL mode.
3) If the GPS signal is abnormal or the GPS does not work, Return to Home is impossible. Please operate the aircraft to land manually.
4) During the RTL mode process, press and hold the return key "" again to cancel the RTL mode.
5) During the Uncontrolled RTL process, after the remote control signal returns to normal, the Uncontrolled RTL process will continue,but the RTL mode can be cancel by switching the flight mode switch to switch the flight mode.
6) If you find that the aircraft is landing too fast when the altitude is lower than 15 meters during the RTL mode landing process,you must manually push the throttle stick slightly to slow down the aircraft's descent speed and ensure the aircraft's safe landing.

To End The Flight

1) Manual landing, low battery protection automatic landing or RTL mode landing, lock the motor after landing on the ground.
2) Turn off the power of the aircraft first, and then turn off the power of the remote control.
3) Take the flight battery out of the aircraft.



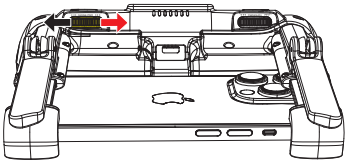
Remove the battery:

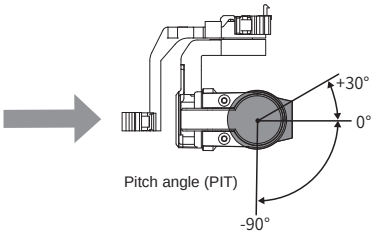
After pressing and holding the textured part of the snaps on both sides of the battery, pull it toward the rear of the aircraft to remove the battery.

Gimbal control

The three-axis stable gimbal provides a stable platform for the camera, so that the camera can also take a stable picture while the aircraft is flying at high speed.You can control the tilt angle (PIT) of the gimbal through left dial of the remote control.

The left dial of the remote control is dialed right or left





Camera control

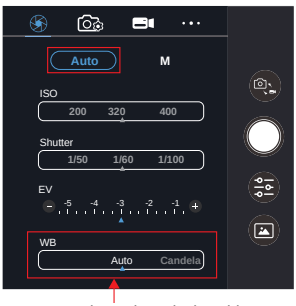
Shooting screen brightness adjustment

Method 1: Set in the APP

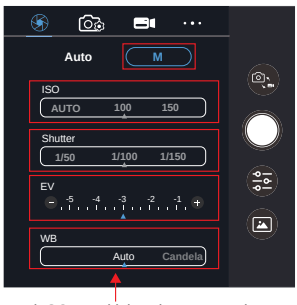
When the image is too dark or too bright, you can click the icon " " → click the icon " " to enter the camera's professional settings, and adjust the brightness of the image by adjusting the ISO sensitivity, shutter speed, and exposure value.

Light up the icon " AUTO " into automatic mode: the camera will automatically adjust the ISO sensitivity and shutter speed according to different environments, and only the white balance can be adjusted manually in the automatic mode.

Light up the icon " M " into "Manual gear: Manual mode can manually adjust ISO sensitivity, shutter speed, exposure value to adjust the brightness of the screen



In automatic mode, only the white balance can be adjusted.



Manual ISO sensitivity, shutter speed, exposure value, white balance can be adjusted.

 © Walkera All Rights Reserved

Attentions:

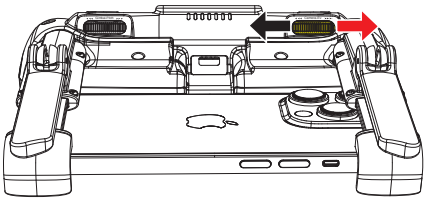
1) In video recording, no automatic or manual switching can be made; in automatic recording, burst dimming compensation can be adjusted; in manual recording, light sensitivity ISO and burst dimming compensation can only be adjusted, and the shutter speed value cannot be adjusted.

2) In manual gear, when the shutter speed value and the sensitivity ISO value are increased. If the camera lens hits the light, the shutter speed or sensitivity ISO is needed to readjust the image brightness. When the camera lens targets the light, adjust the shutter speed or sensitivity ISO to adjust the scene.

Method 2: Quickly adjust the camera exposure value through the right dial of the remote control

When the camera image is too bright, turn the right dial of the remote control to the left to quickly reduce the exposure value to darken the image;

When the camera image is dark, turn the right dial of the remote control to the right to quickly increase the exposure value to brighten the image.

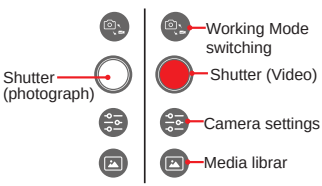


Take photos and video

Taking pictures and videos can be done by taking pictures on the remote control, pressing the video button or operating in the camera window of the mobile device APP.

1) Control in the mobile device APP interface

Tip: The camera window of the mobile device APP interface has received the picture transmitted by the aircraft camera, so that it can be controlled on the APP interface.



①**Select the working mode:**
Click the camera working mode change icon " " to switch the working mode to photo or video.

②**Photo:** Click the photo icon " " to take a photo.

③**Recording:**
Click the recording icon" " to start recording. After recording, click the recording icon" " again to stop recording and save the recording to the aircraft TF card.

2) Remote control physical buttons to control photo or video

①Photo: Short press the photo button " " on the upper right of the remote controller once, the camera will take a photo and save it to the aircraft TF card.

②Recording: Short press the record button " " on the upper left of the remote controller once, the camera starts to record, short press the record button " " again, the camera stops and saves the record to the aircraft TF card.

Intelligent flight function description

Intelligent flight function provides different preset auxiliary shooting intelligent flight modes such as Follow, TimeLapse, and Lock Assist. The aircraft can automatically follow the set auxiliary shooting flight mode to shoot a variety of classic aerial photography.

⚠ Warning

1) Please use the intelligent flight function in an open, unobstructed and obstacle-free environment, and always pay attention to whether there are obstacles such as people, animals, buildings, etc. on the path of the aircraft.

2) Always pay attention to objects from around the aircraft and manually operate to avoid accidents (such as collisions) and blockage of the aircraft.

3) Please do not use the intelligent flight function in places with poor GNSS signals, such as close to buildings and shelters, otherwise it may cause unexpected situations such as unstable flight trajectory of the aircraft.

4. When using the intelligent flight function, users must abide by the local laws and regulations on privacy.

TimeLapse

Free(FreeTime-Lapse)

By setting parameters, the aircraft will automatically take a certain number of photos within the set time and generate time-lapse video. When not taking off, it can shoot on the ground; when taking off, the user can freely control the aircraft through the left/right joystick on the remote control and control the pitch angle of the gimbal through the left dial.

Steps to use:

①Set shooting parameters, including shooting interval and composite video duration. The screen will display the number of shots and the shooting time.

②Click the shooting button to start shooting.

Lock Assist: The Lock Assist functions include Cruise Control Mode, Target Lock Mode, Circle Mode, Soaring to the Sky Mode, Fading Mode, Tail Flick Mode, etc.

Cruise

Automatically maintain three-dimensional movement and spin speed, click the Cruise button on the App interface while manually flying the aircraft, and the flight control will automatically maintain the current climb speed, horizontal flight speed, and spin angle speed, and maintain the movement of manual flying at a constant speed, bringing a new play of camera movement. Click the Cruise button again or push the throttle joystick to the highest, to cancel the Cruise flight.

Target lock (target waypoint marking assisted camera movement):

In the flight process, adjust the gimbal to be aligned with the ground target, click the Target Lock button on the App interface, to open the target waypoint marking function, and view the target's latitude, longitude and height coordinates and distance. The gimbal is automatically and continuously aligned to lock the target, then the gimbal pitch and aircraft heading turn to automatic control state. At this point, it cannot be manually adjusted, instead, you can operate the joysticks to adjust the height and horizontal position of the aircraft. The gimbal can automatically lock the target while the position changes. To mark the waypoints for targets above the ground such as buildings, it is required to fly the aircraft to the top of the target, control the gimbal pitch towards the bottom, adjust the height of the aircraft to be 20 meters above the top of the building, then press the Target Lock button, and the gimbal will lock the position 20 meters right below the aircraft. Click the Target Lock button again, to cancel the gimbal lock.

 © Walkera All Rights Reserved

Circle:
After locking the target, click the Circle button on the App interface, and the aircraft will be aligned with the target and keep circling. When it reaches the time limit or the Circle button is clicked again, the Circle flight will be canceled.

Rise(Soaring to the Sky):
After locking the target, click the Soaring to the Sky button on the App interface, and the aircraft will be aligned with the target and automatically fly right above the target, start to ascend while slowly rotating its heading. When it reaches the time limit or the Soaring to the Sky button is clicked again, the Soaring to the Sky flight will be canceled.

Far Away(Fading):
After locking the target, click the Fading button on the App interface, and the aircraft will be aligned with the target and automatically fly up and away from the target. When it reaches the time limit or the Fading button is clicked again, the Fading flight will be canceled.

Drift(Tail Flicker):
After locking the target, manually fly the aircraft backward away from the marked target, click the Tail Flicker button on the App interface, the drone will be aligned with the target and automatically perform the Tail Flicker shooting flight action. When it reaches the time limit or the Tail Flicker button is clicked again, the Tail Flicker flight will be canceled.

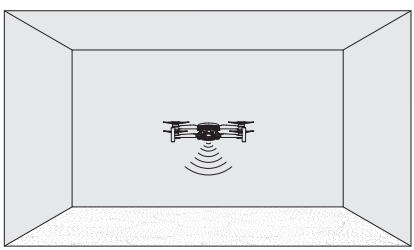
Additional instructions

Description of downward vision system and TOF ranging system

The T210 MINI downward vision system and TOF time-of-flight ranging sensing system are both located at the bottom of the aircraft. The downward vision system consists of a camera; the TOF ranging sensing system consists of a TOF detection light pulse sensor module, which can provide a reference for the height of the aircraft to ground and calculate the aircraft position information with the downward vision system.

Scope of application

The positioning function of the downward vision system is suitable for environments with no GPS signal or poor GPS signal but rich surface texture and sufficient light conditions, and the optimal working altitude range is 0.5~10 m. When flying beyond this range, the visual positioning performance may be degraded, so please fly with caution.



Steps to use

1) Turn on the aircraft.
2) After takeoff, the aircraft status indicator double flashes green, and the visual positioning function will be turned on automatically.

Attentions

1) The maximum hovering height of the aircraft is 5 m when using the downward vision system in an open and flat field without GPS.
2) The downward vision system may not work properly on the water surface. It is recommended that the user maintains full control of the flight.
3) The vision system is not suitable for use in scenarios where the speed of the aircraft is too fast. For example, the flight speed shall not exceed 5 m/s at 1 m above the ground, and not exceed 10 m/s at 2 m above the ground.

4) The vision system cannot recognize surfaces without textural features, and cannot work properly in environments with insufficient or excessive light intensity.

5) Do not block or interfere with the vision system in any way, and avoid using it in an environment with too much dust and water mist, so as not to affect the clarity of the camera. Please do not block the TOF detection light pulse transceiver sensor in any way.

6) Avoid flying in rainy and foggy weather or in other scenarios with low visibility (visibility below 100 m).

The vision system does not work properly in the following scenarios:

a) Solid color surfaces (e.g. solid black, solid white, solid red, solid green).

b) Surfaces with strong reflections (e.g. ice surface).

c) Surface of water or transparent objects.

d) Surfaces of moving objects (e.g. above stream of people, above shrubs or grass blown by high winds).

e) Scenarios with dramatic and rapid changes in lighting.

f) Surfaces that are particularly dark (less than 10lux) or particularly bright (greater than 40,000lux).

g) Material surfaces that have a strong absorption or reflection effect on square wave pulses (e.g. mirrors).

h) Surfaces with particularly sparse texture.

i) surfaces of objects with a high degree of texture repetition (e.g. small checkered tiles of the same color).

j) Tiny obstructions (e.g. tree branches, wires, etc.)

Calibrating the Aircraft Compass

⚠ Notice:

1) The WK Fly App on the mobile device indicates that the magnetic compass of the aircraft is seriously interfered, or circles when hovering, or when the flying straight line deviates from the route, land in time to calibrate the compass. (The motor must be locked).

2)Please perform calibration in an open place outdoors and away from strong electromagnetic field interference.

Open the aircraft compass calibration

Method 1: When the mobile device, aircraft and remote control are all connected, open the compass calibration in the WK Fly APP settings of the mobile device (path: ⚙ → ⌘ → click the icon " > " on the right side of the sensor → click the icon " Calib " on the right side of the compass → click the icon " Start Calibration " in the pop-up window);

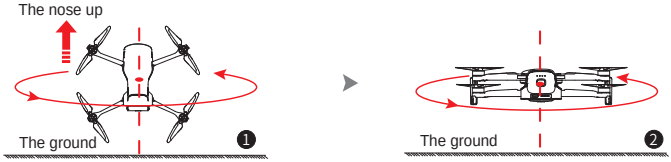
Method 2: When the motor is locked and connected to the remote control, directly place the aircraft nose vertically upward for more than 6 seconds. The aircraft status indicator flashes quickly to indicate that it has entered the compass calibration state.

The compass calibration method is as follows:

1) Hold the aircraft head vertically upward for more than 6 seconds for the aircraft status indicator to enter the flash, and then rotate the aircraft for 720° in the horizontal direction, and the aircraft indicator turns off.

2) Put the aircraft flat, then rotate 720° in the horizontal direction, the aircraft indicator light will be on, and then rest the aircraft in the horizontal position.

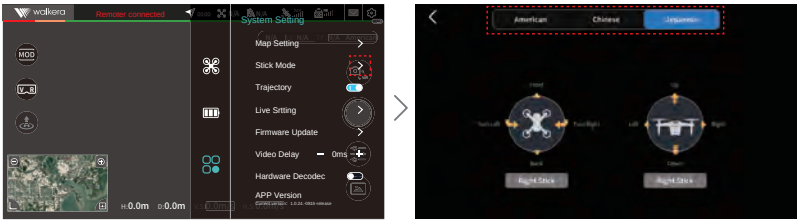
 © Walkera All Rights Reserved



If the calibration is unsuccessful, please recalibrate as described above.

Remote control joystick modes switching

When the remote control and mobile device are connected, first click the icon " ⚙ " in the upper right corner of the WK Fly APP interface to expand the setting pop-up window → then light the icon " ⊞ " to expand the system setting menu → click " > " on the right side of the “Stick Mode” to enter the stick mode switch Interface → On the stick mode switching interface, select the stick mode option "American Hand", "Chinese Hand" or "Japanese Hand" at the endpoint → click the " < " icon in the upper left corner of the stick mode switching interface to exit the stick mode switching interface.



Pair the frequency

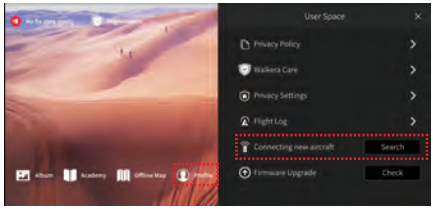
- The whole set of aircraft has been paired frequency before leaving the factory, under normal circumstances, there is no need to pair the frequency again, and it will be automatically connected after booting;
- If you have replaced a new aircraft or a new WKRC-H9/WK-V8 remote control after sales, you need to pair the frequency before connecting the new aircraft or new remote control, otherwise you will not be able to connect.

The operation is as follows

1) Turn on the remote control → the mobile device to connect the remote control wifi → Open the app;

2) Install the battery on the aircraft → Power on → Press and hold the battery button for more than 3 seconds, and the aircraft buzzer will sound;

3) Click " Profile " on the main interface of the App → Click the "Search" button on the right side of "Connecting new aircraft" in the pop-up window, the aircraft and the remote controller will automatically pair the frequency until the buzzer prompt tone ends, indicating that the pairing frequency has been successful.



Battery usage instructions and storage safety

- Always store batteries in a cool, dry place.
- Incorrectly use, charging or storage batteries can lead to fire and personal injury.Always use the battery according to the following safety guidelines.

Battery usage notice

1)Do not expose the battery to any liquid, do not dip the battery in water or wet it.Do not use batteries in rain or wet conditions. When the battery comes into contact with water, it may decompose with reactions, causing spontaneous combustion and even an explosion.

2) Using batteries not officially supplied by WALKERA are strictly prohibited.For replacement, please go to the WALKERA official website for the relevant purchase information.walkera is not responsible for battery accidents and flight failures caused by the use of batteries not officially provided by WALKERA.

3) It is strictly prohibited to use bulging, leaky and packaged damaged batteries.If the above situation occurs, please contact WALKERA or its designated agent for further processing.

4) Keep the battery off before installing or pulling it out of the vehicle.Do not unplug the battery when the battery power is on, otherwise the power interface may be damaged.

5) The battery shall be used at ambient temperatures of between -10℃ and 45℃.Too high the temperature (above 50°C)can cause the battery to catch fire, or even explode.Too low temperature (below -10°C) can severely damage your battery life.

6) No use of batteries in strong electrostatic or magnetic field environments.Otherwise, the battery protection panel will fail, causing a serious failure of the aircraft.

7) Do not dismantle or puncture the battery with sharp objects in any way.Otherwise, it will cause the battery to catch fire or even explode.

8) The liquid inside the battery is highly corrosive, please stay away.If internal fluid sputters the skin or eyes,rinse with water for at least 15 minutes and seek medical attention immediately.

9) The battery shall not be used again if falling from the vehicle or hit by external forces.

10) If the battery accidentally falls into water during flight or otherwise, pull the battery immediately and place it in a safe open area away from the battery until the battery is completely dry.The dried batteries should not be used again and should be discarded and properly disposed of.

11) Do not place the battery in a microwave oven or in a pressure cooker.

12) Do not place the battery cell on the conductor plane.

13) Do not use wires or other metal objects to cause the battery short circuit to positive or negative electrodes.

14) Do not impact the battery.Do not place heavy objects on the battery or on the charger.

15) If the battery interface is dirty, wipe it clean with a dry cloth.Otherwise, it will cause poor contact, thus causing energy loss or an inability to charge.

Battery Storage Safety Warning

1) Do not bring the battery close to an open fire or a heater.

2) Please keep the battery out of the child's reach.

3) Ensure that the battery is kept at room temperature: around 25 ° C.

4) For a long-term unused battery, save the voltage should be controlled between 14.8V~15.8V.

5) When not in use for a long time, the battery should be checked every two weeks for any abnormality, and the battery should be activated by charging and discharging every two months to maintain the activity of the battery.

 © Walkera All Rights Reserved

FCC Statement

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.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

The distance between user and products should be no less than 20cm.

walkera

Product name: Sport Aerial Aircraft T210 MINI

Manufacturer: Guangzhou Walkera Technology Co.,Ltd

Add: No.48 Wangtai Rd ,Taishi industrial Park,Dongyong Town,Nansha Dist Guangzhou,China.

Service hotline: +86 20-84915115

Subject to updates without notice.
You can check the latest version on the official website.

Wechat ID: WALKERA-CHINA