MOIN CAMERA

User manual

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Disclaimer

Thank you for purchasing MOIN Camera. The information referred to in this document affects your safety and legal rights and responsibilities. Please read this document carefully to ensure proper configuration before using. Failure to read and follow instructions and warnings from this document may lead to serious injury to yourself or others, damage to your product or to other objects around.

This document and all the relevant documents about MOIN Camera are reserved by Shenzhen Gudsen Technology Co., LTD. For the most update information, please visit www.gudsen.com to get latest information.

By using this product, you hereby agreed that you have read this disclaimer and warning carefully and understand, agreed to obey the terms and conditions herein. You agreed with the fact that you are responsible for your own conduct while using this product and for many consequences thereof. You promise to use this product only for legitimate purposes, and agree to this article and any relevant regulations, policies and guidelines formulated by Gudsen. In addition to the current laws and regulations in China and those of your residing country, Gudsen will not be responsible for the loss, injury and any legal liability caused by the direct or indirect use of the product and this information. Users should follow all safety guidelines including but not limited to those mentioned in this article.

Safety Guidlines

Warning:

1. Do not allow the product to come in contact with any kind of liquid. Do not leave product out in the rain or near a source of moisture. If the inside gets wet with water, chemical decomposition may occur, which may cause the lens corrosion, battery to spontaneous combust, or even explosion.
2. In case of fire, please use water, water mist, sand, fire blanket, and dry powder carbon dioxide fire extinguisher immediately. Please select according to the above recommended order according to the actual situation to choose the best way to put out the fire.
3. Please use the product in the temperature range of 0 degrees to 40 degrees Celsius.
4. It is forbidden to disassemble the product in any way. If the battery is punctured during disassembly, it will lead to leakage of electrolyte in the battery, even fire, and explosion.
5. Mechanical impact, rolling or throwing of products is prohibited. Do not place heavy objects on the product.
6. Do not heat the product. Do not place the product in the microwave oven or pressure cooker.
7. It is forbidden to place the product close to the heat source (stove or heater, etc.) and place the product in the hot weather of car. Do not store the product above 60 ℃. The ideal storage temperature is 22 ℃ to 28 ℃.
8. MOIN Camera is a high precision device. Fall, impact, and extrusion may lead to damage or abnormal operation to MOIN Camera.
9. Please do not cover or touch the heat dissipation area with your body during use to avoid scalding. When the temperature of MOIN Camera is too high, filming may be interrupted

automatically.

10. Please pay attention to dust and sand prevention when using MOIN Camera.

Copyright notice:

The images you take with MOIN Camera are not only for personal enjoyment, but also according to the copyright law, it is not allowed to use without the permission of the copyright owner. In addition, during the demonstration, performance and display items, even for the purpose of personal appreciation, shooting is prohibited. Please pay attention to this.

Notes on discarding / transferring this camera

When discarding or transferring this camera, please do the following to protect your personal information.

Slide down to the settings menu - click system settings - restore to default settings.

Notice:

Performing [format] or [delete] on the camera or computer may not completely delete the data on the memory card. When transferring the memory card, it is recommended to use the special data deletion software of the computer to delete the data completely. In addition, when discarding a memory card, it is recommended that the memory card be actually destroyed.

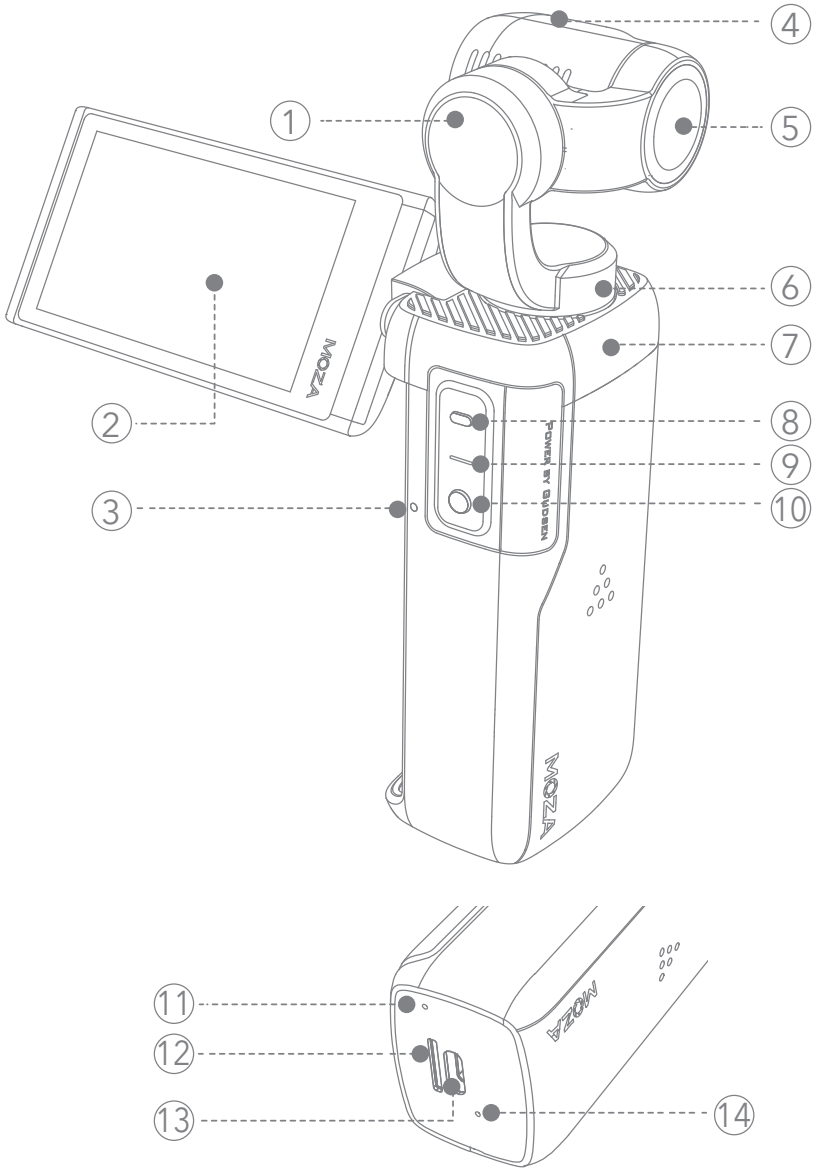
Notes on 5GHz band of WLAN

WLAN 5GHz cannot be used outdoors.

Memory card requirements

MOIN Camera uses micro SD card for media storage. Before using, please set the memory card in exFAT format. MOIN Camera supports 16-256gb memory cards. It is recommended to use micro SD card with speed higher than V30. Memory card not included.

Know About Moin Camera



① Roll Axis Motor
② Foldable and Tiltable Screen
③ Pickup
④ Camera
⑤ Pitch Axis Motor
⑥ Heading Axis Motor
⑦ Heat Elimination Area
⑧ Power
⑨ Indicate Light
⑩ Record
⑪ Pickup
⑫ Micro SD Card Slot
⑬ Type-C Interface
⑭ Reset

Attention:

1. Do not block the pickup hole during recording, to avoid affecting the audio recording.
2. Do not rotate the screen too much, otherwise the device may get damaged.

Preparations

Charging

Before using for the first time, please use the standard charging cable to connect the USB-C interface at the bottom of the body with a USB charger (USB Charger Not Included) to charge the MOIN Camera.
When charging, the red indicator light of the handle will stay on, and when fully charged the indicator light will turn off.
After power on, the touch screen displays the power level.
Charging time: about 88 minutes (with 5V / 2A USB charger, tested at Gudsen laboratory)

Attention:

1.Please use the 5V / 2A charger to get better charging experience.
2.Please charge at 0-40 ℃
3.Charging time is for reference only, your charging time may differ.

Memory Card Installment

As shown in the figure, insert the micro SD card into the micro SD card slot, and the terminal face should be facing the side with the MOZA logo. Please insert the memory card until it clicks. It is recommended to use a memory card with a transmission speed of V30 or higher. Memory card not incldued.

Switch On/Off

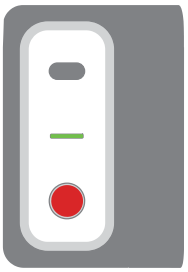
Press the gray power button for 2 seconds to switch on / off.

Recording/Photograph

After power on, click the red record button to start recording or taking pictures.

Button and Operation

Function of Button



Power Button

Long press for two seconds: Switch on/off.
Short press: Switch mode to recording / photographing.
Click twice:
Click third: Selfie mode

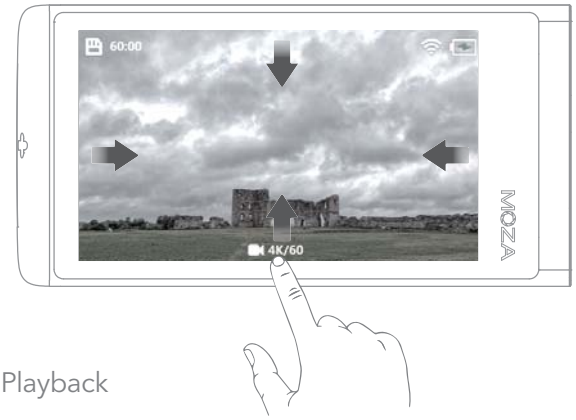
Recording Button

Short press: Photograph/video recording

Indicator Light Instruction

Color	Statement	Instruction
Green Light	Always on	Power-on state, the power is more than 20%
	Flicker quickly	Recording Video
	Flicker slowly	Taking a photograph
Red Light	Flicker	MOIN Camera's status is abnormal; The status can be viewed on the screen. Low power No memory card, or card error Memory card is full
	The red light is always on when charging and goes out after being fully charged.	

Touch Screen Operations



Playback

Mode switching

Menu settings

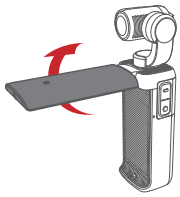
Shooting parameter adjustment

Mode parameter setting

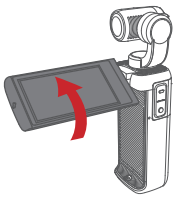
Adjust the Screen Angle

The screen angle and orientation can be adjusted to suit the scene and shooting mode.

Tilt the screen down: the screen can be rotated down about 90°.



Rotate the screen: the screen can be rotated about 60°.



Attention:

1.Please close the screen when you are not using MOIN Camera.
2.Do not rotate the screen too much to avoid damaging the device.

Start Using

Recording/Photographing

After powering on, click the record button to start recording or photographing. When MOIN Camera is in recording mode, click the record button to start recording. When in photographing mode, MOIN Camera starts taking photos. MOIN Camera will be in record mode by default.

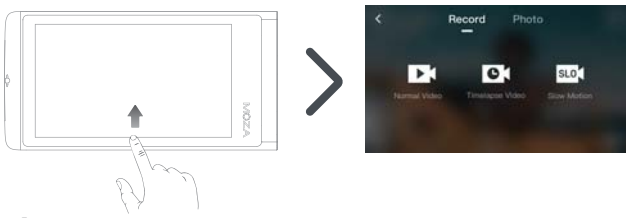
Switch recording and photographing mode

1.Quick switching

You can short press the power button to switch between photographing and recording modes.

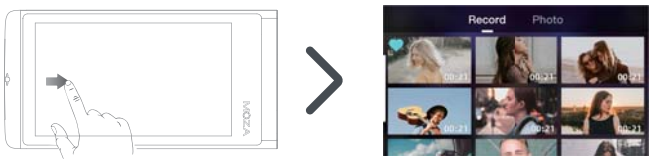
2.Switch Menu

swipe up from the bottom edge of the screen to enter Switch Menu to switch the mode.



Playback

Swipe up and down in the album to view thumbnails of photos and videos in the album.



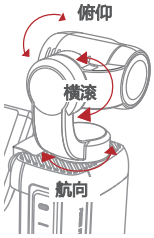
- Select image: Click the image thumbnail in the thumbnail interface to select the corresponding image file.
- Play image: Double-click the thumbnail in the album to play the corresponding photo or video. On the playback interface, you can click to
- Lock the video file: Select a video/photo on the playback interface, click the white heart icon to lock the video file. When the icon changes to a blue heart , the image file is locked and cannot be deleted.
- Unlock: Select a video/photo on the playback interface, click to unlock the image file. When the icon becomes a white heart, the image file is unlocked and can be deleted.
- Delete image: Select a video/photo on the playback interface, click to delete the image file.

Attention:

Once an image is deleted, it cannot be restored. Please confirm whether you want to delete before deleting!

Switch Gimbal to Follow Mode

Swipe down from the top edge of the screen to open the settings menu. Click the following mode icon to switch the pan/tilt follow mode or lock mode.



● PTZ following mode and corresponding icon:

Following mode (default mode): This mode is suitable for most shooting scenes. The camera lens roll is kept horizontal, and pitch/pan will follow the handle rotation.

Pitch lock mode: Roll and pitch axes of the camera lens remain locked, only pan will follow the rotation of the handle.

The above two following modes support face follow (UI).
● MOIN Camera will automatically follow the user after recognizing the face in selfie mode.
● When the camera is facing forward, you need to click the confirm (UI) to start following (with the above UI picture)

FPV mode: the camera lens completely follows all directions of the gimbal, pitch, roll, and pan will follow the rotation of the handle.
Return to the center: after returning to the center, the lens will face straight ahead horizontally.

To return the camera to center. You can double-click the power button or slide down from the top edge of the screen and click the icon to the enter the settings menu.

Attention:

When the movement of the gimbal is blocked, it will enter the protection mode. After entering the protection mode, please ensure that the movement of the gimbal is not blocked, and click the screen to unlock (UI image) to wake up the gimbal.

● PTZ follow sensitivity setting

Swipe down from the top edge of the screen, click the setting menu to enter the system setting menu, and click "PTZ sensitivity". The pan/tilt sensitivity can be set to: sensitive or soft.

Set to sensitive, the gimbal will respond quicker; set to soft, the gimbal will respond slower and smoother.

self timer mode

When shooting, you can quickly switch the gimbal between the front to back or selfie mode by the following operations

Three-click the power button: Selfie mode

Or swipe down from the top edge of the screen and click the selfie switch icon in the settings menu

Screen Lock and Unlock

- **Screen Lock**

Swipe down from the top edge of the screen and tap the screen lock icon in the settings menu to lock the MOIN Camera screen. After the screen is locked, the screen will turn black automatically.

- **Screen Unlock**

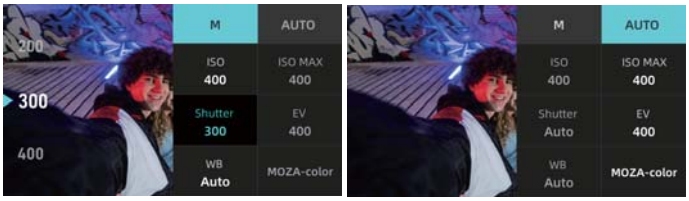
When the screen is locked, click the power button or double-tap the screen and slide the unlock icon on the screen to unlock.

Shooting Guidance

Switch automatic / Manual Mode for Shooting

- Manual and automatic mode switching

The default mode of MOIN Camera is automatic.
Swipe left from the right edge of the screen to open the shooting parameter adjustment menu. Click "manual" in the menu to switch to manual mode. In manual mode in auto mode, click "auto" to switch to auto mode.



- Adjust shooting parameters

Parameters that can be adjusted in automatic mode:
Auto MAX ISO: the camera will be at the set Max ISO within a large range of sensitivity, the sensitivity is set according to the brightness.

MAX ISO can be set between ISO200-6400, the set step distance is 1EV.
（EV）: usually, the exposure is set automatically by the camera. Based on the automatically set exposure value, the whole image becomes bright when compensating in + direction and dark when compensating in - direction.
1.The value can be set in the range of - 2.0eV to + 2.0eV.
2.The set step distance of Exposure Bias Value is 1/3 EV.

Parameters that can be adjusted in manual mode:

Shutter: Set the preferred shutter speed for static or dynamic image shooting. The smaller the shutter speed number, the faster the shutter speed.
WB: Set the preferred white balance mode.
Auto / daylight / cloudy / incandescent / fluorescent / water auto /D4000/D5000/D9000/D10000
ISO: Manually set the preferred sensitivity. The higher the value, the higher the sensitivity. The setting range is iso100-3200, and the setting step is 1EV.

The higher the ISO, the more noise.

Take Static Images

Regular mode

The default mode of taking photos is regular mode. Press the recording key in a short time to take a static images.

Adjust static image quality

In the preview interface, slide from the right edge of the screen to the left to open the shooting parameter adjustment menu. Click JPEG + DNG to take raw photos.

※You can use this menu to take photos in JPEG, or JPEG + DNG.

JJPEG: Take photos at the form of JPEG
DNG: When recording JPEG image and recording raw file before image processing, DNG is selected as the recording format when it is suitable for computer post-processing according to professional purpose.

Attention:

The RAW file shot in this MOIN Camera is DNG.

In the preview interface, click below to enter the mode adjustment menu.

Adjust the picture scale.
In the mode adjustment menu and the "scale" submenu, you can set the screen scale to 4:3 or 16:9.

Set the countdown for taking photos

You can set the countdown to make it easier for you to take a self or co shoot. The setting value of countdown can be 0 / 1 / 2 / 3 / 4 / 5 / 10 seconds.

- Surround AEB posure

Automatically change the exposure according to the standard dark bright sequence (surround exposure). You can choose your favorite image after shooting. AEB

In the preview interface, click the icon below to enter the mode adjustment menu.

Adjust exposure step length:

The exposure step and the number of shots can be adjusted according to the needs. The exposure step can be set to three pictures were taken with 1 / 3 EV, five pictures with 1 / 3 EV and three pictures with 2 / 3 EV.

Adjust the picture scale:

You can adjust the scale of the screen in the mode adjustment menu. It can be adjusted to 16:9 or 4:3.

- Photo shoot

After setting continuous shooting, click the record key and the camera will automatically take continuous pictures for a certain amount

A number of photos

- Click the icon below in the preview interface to enter the mode adjustment menu

Set the number of consecutive shots

- Settings After pressing the record key, set automatic continuous photography in the "rate" sub-menu

In this mode, after short pressing the record key, the camera will automatically record at the preset shooting interval to repeat the static image shooting. Press the record key again to stop shooting.

MOIN Camera takes static images in this mode, and cannot create dynamic images directly in this mode. To create dynamic images, please use computer software (e.g. Photoshop, Irtimelapse) for post synthesis or use delayed recording mode.

In the preview interface, click the icon below to enter the mode adjustment menu and set the delay photographing interval.

The photographing interval delay can be set. The time that can be set to 5 / 1 / 2 / 3 / 5 / 10 seconds.

Adjust the picture scale

In the mode adjustment menu and the "scale" sub menu, you can set the screen scale to 4:3 or 16:9.

- **Panoramic mode**

  In the preview interface, click the icon at the bottom to enter the mode adjustment menu to adjust the number of shots in panoramic mode.
  You can adjust the number of shots to 1x3 or 3x3 according to your needs.

  In this mode, MOIN Camera takes static images, and compositing function is not provided.

Take dynamic images

- General video

  The default recording mode is normal recording. Press the recording key in a short time to capture the dynamic images.

  MOZA Color:
  In the preview interface, slide from the right edge of the screen to the left to open the shooting parameter adjustment menu. MOZA color is a video color filter, which can only be enabled in normal video mode. When opened, a unique color filter will be provided.
  In the preview interface, click below to enter the mode adjustment menu.
  Adjust resolution
  In the mode adjustment menu 'resolution', you can set the resolution to 720P/1080P/2.7K(4:3)/2.7K/3.2K/4K/4K(4:3)。

  Adjust frame rate:
  You can set the frame rate when recording. The frame rate can be set at different resolutions

  Record on a loop
  This function can only be used in normal video recording mode, and the duration can be set to off /1 / 2 / 3 / 5 minutes.

  Attention:
  Normal video supports recording on a loop. After the function of circular video recording is turned on, if the card is full, the previous first video clip will be deleted to allow continued loop recording.

- Time-lapse

  In this mode, after short pressing the record key , the delay video is shot and synthesized according to the preset shooting interval, shooting duration and film resolution.
  Short press the record key during recording to stop shooting in advance.

  In this mode, MOIN Camera will automatically synthesize time-lapse video with a frame rate of 30fps.

  In the preview interface, click the icon below to enter the mode adjustment menu.
  Duration: The duration of recording. Please note that the duration is not equal to the duration of delayed video.
  Interval: The interval between two still photos when delayed shooting.
  Resolution: The resolution of the delay video synthesized by Moin Camera.

- Slow Motion SLO

  In this mode, the slow motion video will be taken after pressing the recording key briefly.

  In the preview interface, click the icon below to enter the mode adjustment menu. SLO

  Resolution: the video resolution generated by MOIN Camera.

  Multiple: the slowing rate of the slow motion video shot by MOIN Camera.

Device Custom Setting

Swipe down on the touch screen to enter the setting page.

Screen Brightness Setting

In the setting page, tap the icon to adjust the brightness levels.

Spot (partial) Metering Setting

In the setting page, tap the icon to enter the Spot(Partial) Metering Setting. In the preview page to move the icon spot to the needed position, tap the icon to confirm.

Attention: Tap the exit directly won't save any changes.

Grid Setting

In the setting page, tap "Enter the System Setting", tap "Grid Setting" to enable the grid.

Jiuzhaigu: The preview screen shows Jiuzhaigu auxiliary line

Rice grid: the preview screen shows the rice grid auxiliary line

Close: Preview interface does not show guides

Language Setting

In the setting page, tap "Enter the System Setting", tap "Language Setting" to choose the system language.

Screen Auto Sleep and Auto Power Off

You can set the Moin Camera to automatically stop the screen or automatically shut down after a period of no operation

- **Auto Sleep**

  In the setting page, tap the icon to enter the setting system, tap "Auto Sleep" to set the time before device enters sleep mode or turn off the mode. After device enters Auto Sleep, double tab the screen or click any button to wake up the screen.

  Attention: Auto Sleep mode won't work when playback.

- **Auto Power Off**

  In the setting page, tap the icon to enter the setting system, click "Auto Power Off" to set the time before device powers off automatically or turn off the mode.

Attention:

The Auto Power Off won't work while the device in this mode:

- Time-lapse
- Video
- Playback

Wireless Connection

In the setting page, tap the icon to enter the setting system, tap 'Wireless Connection'.
Wireless info.: Check the device name and password
Wi-Fi Frequency: Select the frequency 2.4G/5.8G/Auto
Reset Connection: Reset the device name and password into factory setting

Attention: Wireless 5GHz frequency can be used outdoors.

Factory Reset

In the setting page, tap the icon to enter the setting system, tap "Factory Reset", the device will reset default setting.

Other System Settings:

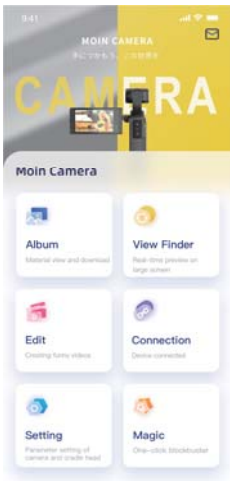
Format Micro-SD Card: Tap to format the Micro-SD Card.
Watermark Setting: The watermark shows on the bottom right corner of the videos or the photos. The watermark can set up date/time/turn off.

Attention: When the video set up in 4K 60FPS cannot enable the watermark

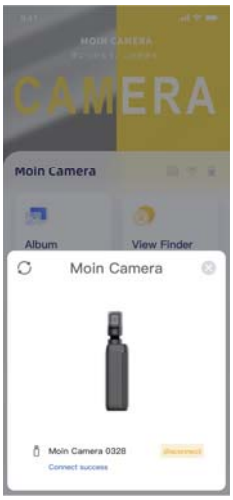
Mute Video: Enable to record video without sound
Sounds: Turn on/off the device sounds
Looping Interval: Set your device to record 1, 2, 3, 5minutes loops or turn off. It will record until your SD card is full before looping back to record over the start of the video.
Firmware Version: Tap to view the device firmware version info.

App Connection

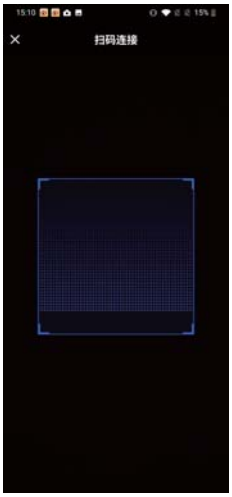
1.Tap device connection



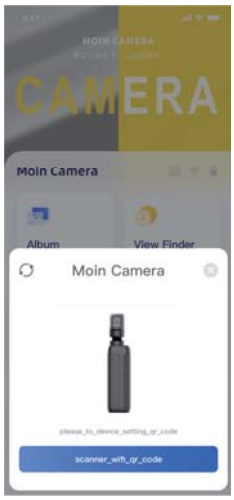
2.Tap "Scan the Wi-Fi Code"



3.Scan the code



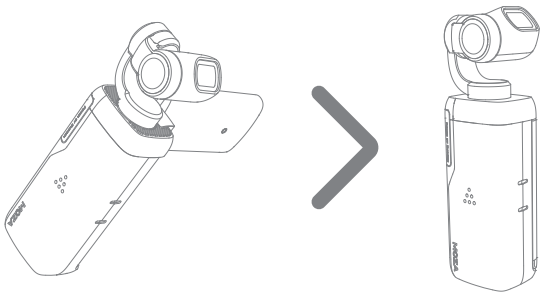
4.Connect successfully



Troubleshooting Common Issues

Gimbal enters protection mode
When the gimbal cannot move smoothly due to external factors, it will enter the protection mode. When in protection mode, to reactivate the gimbal, simply click the screen to unlock (UI icon)

The gimbal is not level
When MOIN Camera is turned on in a non-horizontal position (pitch and tilt angle), it will maintain the inclination angle after turn on. To restore it to the horizontal position,
Please double-click the recording button to return to the center.



The gimbal cannot be charged when the temperature is high

In this case, the battery is in the protection mode, please wait for the battery temperature to drop below 40℃ to resume charging.

The gimbal crashes, the buttons do not work and cannot be shut down

Above abnormal could be caused by the firmware issue, use a paperclip to press the reset button at the bottom of the machine.

After inserting the card, the camera shows a low-speed card and cannot record/take photos

Using low-speed cards below Class10 or Micro SD cards with a capacity of less than 16G will report an error. Please use the U3/V30 Micro SD card that listed in the recommendation List.

FCC Warning

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.

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

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.

SAR limits is used against the body. The SAR limit is 1.6 watts per kilogram averaged over 1 gram of tissue for use against the body.

-During testing, the device radios are set to their highest transmission levels and placed in positions that simulate use against the body, with 5mm separation. When placing the device near your body, keep at least 5mm of separation to ensure exposure levels remain at or below the as-tested levels.
-The highest SAR values are as follows:
-Body SAR: 1.085 W/Kg