



MOIN CAMERA


User manual

使用手册


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Tips for Reading

 Search by Key Words
Key words can be found in the user manual by using the searching function. For example in Adobe Reader to search for key words, Windows Users can press Ctrl+F, and for Mac User press Command+F.

 Navigate to a Topic
Click on a topic to navigate to the corresponding page.

 Print Document
This document can be printed.

Icon Explanation

 Important notice

 Tips

 Prohibited Operations

Video Tutorial

You can search the official account in WeChat: Gudsen in the menu bar>college course>video school, click the "Tutorial" to see the tutorial of MOIN Camera.

You can also scan the QR code to view the video tutorial to use the product correctly.



Download MOZA Artist App

Please download the MOZA Artist App on the App Store to get better experience. For quicker access you can scan the QR Code.



1.System Requirements: iOS 11.0 or above, Android 6.0 or above.

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 °C. The ideal storage temperature is 22 °C to 28 °C.
8. MOIN Camera is a high precision device. Fall, impact, and

extrusion may lead to damage or abnormal operation to MOIN Camera.


- 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.
- 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.

Notes on discarding/transferring memory card

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.

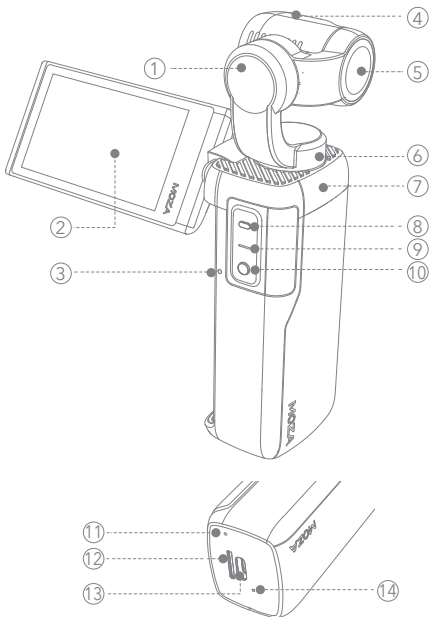
Memory card requirements

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.

Recommended memory card

| Brand | Capacity | Spec | Picture |
|---------|----------|----------------------------|---|
| SanDisk | 64GB | U3 A2 V30 UHS-I 4K Extreme |  |
| SanDisk | 128GB | U3 A2 V30 UHS-I 4K Extreme |  |
| SanDisk | 256GB | U3 A2 V30 UHS-I 4K Extreme |  |
| SanDisk | 64GB | U3 A2 V30 UHS-I 4K Extreme |  |
| SanDisk | 128GB | U3 A2 V30 UHS-I 4K Extreme |  |

About MOIN Camera



- | | |
|---------------------------------|----------------------|
| ① Roll Axis Motor | ⑧ Power |
| ② Foldable and Tilttable Screen | ⑨ Indicate Light |
| ③ Pickup | ⑩ Record |
| ④ Lens | ⑪ Pickup |
| ⑤ Pitch Axis Motor | ⑫ Micro SD Card Slot |
| ⑥ Heading Axis Motor | ⑬ Type-C Interface |
| ⑦ Heat Elimination Area | 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 TYPE-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 90 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 °C
3. Charging time is for reference only, your charging time may differ.

Memory Card Installment

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 included.

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 2 seconds: Power on/off

Short press: Switch between recording/
photo taking

Double click: Return to center






Click third: Selfie mode



Recording Button

Short press: Take photo(when in photo mode)
Record (when in recording mode)






Indicator Light Instruction

| Color | Statement | Instruction |
|---|-----------------|---|
|  | Always on | Power on, power quantity is above 20% |
| Green Light | Flicker quickly | Recording Video |
| | Flicker slowly | Taking a photograph |
|  | Red Light | 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 30°.




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.

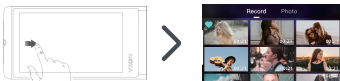
2.Switch Menu





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.




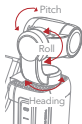
- Select image: Click the image thumbnail in the thumbnail interface to select the corresponding image file.
- Play image: Double-click the thumbnail in the album to play the corresponding photo or video. On the playback interface, you can click to
 - Collect image files: in the selected image status or playback interface, click white heart  to collect image files. When the icon becomes blue heart , the image file has been collected and cannot be deleted.
 - Cancel collection: in the selected image status or playback interface, click Cancel collection of image file. When the icon becomes white heart , the image file is locked for collection and can be deleted.
 - Delete image: in the selected image status or playback interface, click  to delete 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 tracking (UI).

- MOIN Camera will automatically track 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.

Selfie 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

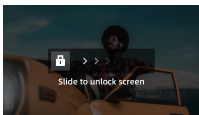
Screen Lock and Unlock

● 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.



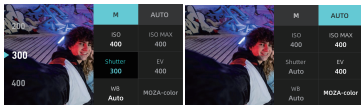
Shooting Guidance

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 ISO100-3200, 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 Exposure

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

In the preview interface, click the icon  which 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.

● Continuous photograph

After setting up continuous shooting, click the recording button , camera will automatically take a certain number of pictures in succession.

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

Set the number of continuous shots

Set the number of automatic continuous photos in the "speed" submenu after pressing the record key. The number of photos can be set to 3 / 5 / 7 / 9.

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.

● Time-lapse

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, Lrtimelapse) 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** 

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.

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.

- Rule of thirds: show the rule of thirds grid line
- Asterisk: show the asterisk grid line
- Close: the preview interface does not display auxiliary lines


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


Moin camera can be set to automatically stop the screen or 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 tap 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

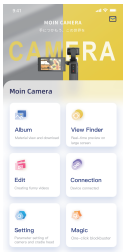
Sounds: Turn on/off the device sounds

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.

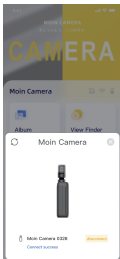
Firmware Version: Tap to view the device firmware version info.

App Connection

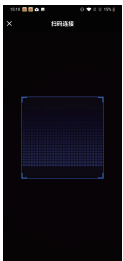
1. Tap device connection



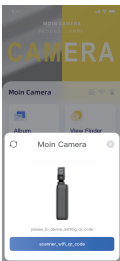
2. Tap "Scan the Wi-Fi Code"



3. Scan the code



4. Connect successfully



Troubleshooting Common Issues

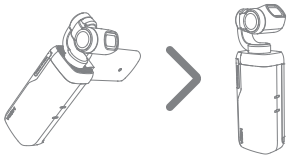
Gimbal enters protection mode

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 °C 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.

Specifications

| | | | |
|-------------------------|-----------------------------|--|--|
| Dimensions | 129×37.8×32mm | | |
| Weight | 176g | | |
| Gimbal | Rotation Range | Pan: From -250°~+70° | |
| | | Tilt: From-120°~98° | |
| | | Roll: ±90° | |
| | Controllable Rotation Range | Pan: from -230°to +50° | |
| | | Tilt: from -95° to +50° | |
| | | Roll: ±45° | |
| | Max Controllable Speed | 120°/S | |
| | Angular Vibration Range | ±0.005° | |
| | Lens | FOV:120° F2.2 | |
| | | Equivalent Focal Length: 14mm | |
| | ISO Range | Photo: 100~3200 | |
| | | Video: 100~3200 | |
| | Shutter Speed | 60S~1/8000S | |
| | Max Photographic Resolution | 4000X3000, 12MP | |
| | Time-lapse Recording | Time-lapse Recording/Track time-lapse resolution 4K(4:3)/4K/3.2K/2.7K/2.7K (4:3)/1080PInterval 10.5S/1S/2S/3S/4S/5S Duration: 1min/2min/3min/4min/5min/∞ | |
| | Normal Recording | 4K:3840X2160 @ 60/50/48/30/25/24P 4K(4:3):3840X2880 @ /48/30/25/24 3.2K: 3200x2400 @ 30/25/24P FHD:1920X1080 @ 200/120/100/60/50/48/30/24P HD:1280X720 240/200/120/100P 2.7K:2704X1520 60/50/48/30/25/24P 2.7K (4:3) :2704X1520 60/50/48/30/25/24P | |
| | | 720: 4X;8X 1080P:4X; 8X | |
| | Photograph Mode | Single Shot, Panorama, Staticlapse, Motionlapse, Hyperlapse | |
| | Record Mode | Record; Slow Motion; MOZA-colo | |
| | Max Video Bitrate | 100Mbps | |
| | Supported File Formats | exFAT (FAT64) | |
| Photo Format | JPEG/JPEG+DNG | | |
| Video Forma | mp4 (MPEG-4AVC/H.264) | | |
| Recommended Memory Card | MicroSD, V30 | | |
| Capacity | 16~256G | | |
| Audio Format | 48KHZ, AAC | | |
| Screen | 2.45 Inches | 480X272 Reversible Screen | |
| | IPS LCD | Reversible Angle:Revise up and down-90°~+60° | |
| | | 90° for opening and closing | |

| | | |
|------------------|----------------------------------|---|
| Conne- tion | Wi-Fi Operating Frequency | FCC/CE/SRRC: 2.400-2.4835 GHz, |
| | | 5.725-5.850 GHz (DFS) |
| | | MIC:2.400-2.4835 GHz |
| | Wi-Fi Protocol | 802.11a/b/g/n/ac |
| | Bluetooth Operating Frequency | 2.400-2.4835 GHz |
| | Bluetooth Protocol | BLE 4.2 |
| | Type | Lithium battery |
| Battery | Capacity | 950mAh |
| | Energy | 7.14Wh |
| | Voltage | 7.68V |
| | Operating Temperature | From 0°to 40° |
| | Operating Time | 145min |
| | | (Tested by Single Shot with 1080/30fps) |
| | Charging Time | 90min (5V/2A Charging Rate, tested in |
| MOZA laboratory) | | |

Notice: Working time and charging time for Laboratory environmental testing, for reference only.

Contact MOZA Support Team

Customer Service: Support-Product Support

Service Hotline: 0016467400973

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阅读提示

 **快速搜索关键词**
本PDF电子说明书可以通过查找功能搜索关键词。如在 Adobe Reader 中，Windows用户使用快捷组合键 Ctrl+F，Mac用户使用Command+F即可搜索关键词。

 **点击目录跳转**
用户可以通过目录了解文档内容结构，点击标题跳转至对应页面

 **打印文档**
本文档支持高质量打印

图标说明

 **重要注意事项**

 **使用提示**

 **严禁进行的操作 * 备注内容**

视频教程

您可以在微信搜索公众号：魔爪稳定器，在菜单栏>学院教程>影像学院，点击“#使用教程”观看Moin Camera 使用教程。您也可以扫描二维码查阅视频教程，以正确地使用本产品。



下载MOZA Artist App

请下载MOZA Artist App 以获得更好的产品使用体验。请在手机应用商店搜索“MOZA Artist”或扫描下方二维码获取App。



1. 手机系统要求：iOS 11.0或更高版本，Android 6.0或更高版本
2. Android用户建议在腾讯应用宝下载MOZA Artist

免责声明

感谢您购买Moin Camera。本文所提及的内容关系到您的安全以及合法权益与责任。

使用本产品之前，请仔细阅读本文以确保已对产品进行正确的设置。不遵循和不按照本文的说明与警告来操作可能会给您和周围的人带来伤害，损坏Moin Camera 或其它周围的物品。

本文及 Moin Camera所有相关的文档最终解释权归深圳市固胜智能科技有限公司（以下简称“固胜智能”）所有。如有更新，恕不另行通知。请访问www.gudsen.com 官方网站以获取最新的产品信息。

一旦使用本产品，即视为您已经仔细阅读本文的免责声明与警告，理解、认可和接受本文的全部条款和内容。您承诺对使用本产品以及可能带来的后果负全部责任。您承诺仅出于正当目的使用本产品，并且同意本文以及固胜智能制定的任何相关条例、政策和指引。除中国现行法律法规规定，固胜智能对于直接或间接使用产品、本资料而造成的损失、伤害以及任何法律责任不予负责。用户应遵循包括但不限于本文提及的所有安全指引。

安全操作指引

警告：

1. 严禁使产品接触任何液体，切勿将产品侵入水中或将其弄湿。切勿在雨中或者潮湿的环境中使用产品。产品内部接触到水后可能会发生腐蚀反应，从而引起镜头原件腐蚀，电池自燃甚至爆炸。
2. 若产品发生起火，请立即使用水、水雾、沙、灭火毯、干粉、二氧化碳灭火器灭火。请根据实际情况按以上推荐顺序选择灭火方式。
3. 请在温度为0°C至40°C之间的环境中使用产品。
4. 禁止以任何方式拆解产品。若拆解过程中刺破电池，将会导致电池内部电解液泄露、甚至引发起火、爆炸。
5. 禁止机械撞击、碾压或抛掷产品。请勿在产品上放置重物。
6. 切勿对产品进行加热。请勿将产品放置于微波炉或压力锅中。
7. 禁止将产品放在靠近热源（火炉或加热器等）的地方以及将产品置于热天的汽车内。切勿将产品存储在超过60°C的环境下。理想的存储环境温度为22°C至28°C。
8. Moin Camera 为高精度设备。摔落，外力撞击，挤压均有可能损坏Moin Camera 导致工作异常或损坏。
9. 使用过程中请勿覆盖或用肢体接触机身散热区域，避免烫伤。当 Moin Camera 温度过高时，可能会自动中断拍摄。
10. 使用Moin Camera时请注意防尘，防沙。

版权注意事项:

您用Moin Camera拍摄的影像除了用于个人欣赏的目的外,依据版权法的规定,未经版权所有者的允许不得擅自使用。此外,在演示和演出期间以及展示物品等中,即使出于个人欣赏等目的,也有禁止拍摄的情况,敬请您注意。

有关丢弃/转让本相机的注意事项

当丢弃或转让本相机时,请执行以下操作以保护个人信息。

↓ 下滑进入设置菜单--- 点击系统设置---恢复默认设置。

丢弃/转让存储卡时的注意事项

在相机或电脑上执行 [格式化] 或 [删除] 可能不会完全删除存储卡上的数据。转让存储卡时,建议使用电脑的专用数据删除软件等将数据完全删除。此外,当丢弃存储卡时,建议将存储卡实际销毁。

有关无线局域网5GHz频段注意事项

无线局域网5GHz不可以在室外使用。

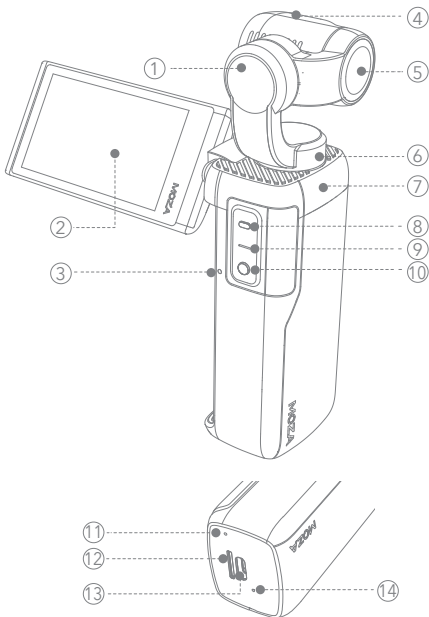
存储卡要求

Moin Camera使用Micro SD卡作为存储介质。使用前,请在电脑将储存卡格式化为exFAT格式。Moin Camera支持16-256GB容量的存储卡。建议使用速度大于V30的Micro SD卡,存储卡需要自行购买。

建议使用的储存卡

| 品牌 | 容量 | 规格 | 图片 |
|-------------------------------|-------|-------------------------------|---|
| 闪迪 (SanDisk) TF (MicroSD) 存储卡 | 64GB | U3 A2 V30 UHS-I 4K 至尊极速版 |  |
| 闪迪 (SanDisk) TF (MicroSD) 存储卡 | 128GB | U3 A2 V30 UHS-I 4K 至尊极速版 |  |
| 闪迪 (SanDisk) TF (MicroSD) 存储卡 | 256GB | U3 A2 V30 UHS-I 4K 至尊极速版 |  |
| 闪迪 (SanDisk) TF (MicroSD) 存储卡 | 64GB | U3 A2 V30 UHS-II 4K 至尊超极速版 |  |
| 闪迪 (SanDisk) TF (MicroSD) 存储卡 | 128GB | U3 A2 V30 UHS-II 4K 至尊超极速版 |  |

认识Moin Camera



- | | |
|-----------|---------------|
| ① 横滚轴电机 | ⑧ 电源键 |
| ② 可折叠翻转屏幕 | ⑨ 指示灯 |
| ③ 拾音孔 | ⑩ 录制键 |
| ④ 镜头 | ⑪ 拾音孔 |
| ⑤ 俯仰轴电机 | ⑫ Micro SD 卡槽 |
| ⑥ 航向轴电机 | ⑬ Type C 数据接口 |
| ⑦ 散热区 | ⑭ 复位键 |

⚠ 注意:

1. 录音时请勿堵住拾音孔避免影响录音效果
2. 请勿过度旋转屏幕，否则可能会损坏设备

使用前准备

充电

首次使用前，请使用标配充电线，连接机身底部TYPE-C接口与充电器（自备）给Moin Camera 充电。

充电时，手柄的红色指示灯常亮，充满电以后，指示灯熄灭。开机以后触摸屏显示电量。

充电时间：约90分钟（使用 5V/2A USB充电器时，固胜实验室测试）

⚠ 注意：

1. 请使用5V/2A充电器以获得最佳充电体验。
2. 请在0-40°C环境温度下进行充电
3. 充电时间仅供参考。
4. 请自备充电器。

安装存储卡

在Micro SD卡槽中插入Micro SD 卡，端子面需朝向MOZA logo一侧，存储卡请插入到底直到发出咔嚓声。建议使用传输速度达到V30或更高速度的存储卡，存储卡需自行购买。

开关机

长按灰色电源键2秒即可开机/关机。

录像/拍照

开机以后，单击红色录制按钮开始录制或拍照

按键与操作

按键功能



电源键

长按2秒：开机/关机

短按：切换录制/拍照模式

双击：云台归中

三击：自拍模式

录制键

短按：拍照（拍照模式时）






录制（录制模式时）

指示灯指示说明

| 颜色 | 状态 | 说明 |
|------------------|------|---|
| — | 常亮 | 开机状态, 电量大于20% |
| 绿灯 | 快速闪烁 | 正在拍照 |
| | 慢速闪烁 | 录制中 |
| 红灯 | 闪烁 | Moin Camera状态异常; 状态可在屏幕上查看 |
| | |  低电量 |
| | |  没有储存卡或卡错误 |
| | |  储存卡已满 |
| 充电时红灯常亮, 充满后红灯熄灭 | | |

触摸屏操作



-  回放
-  模式切换
-  设置菜单
-  拍摄参数调整
-  模式参数设置

调整屏幕角度

可以调整屏幕角度和方向, 以适应场景和拍摄方式。

向下倾斜屏幕:

屏幕可以向下旋转约90°



向上倾斜屏幕:

屏幕可以向上旋转约30°




注意:

- 1.不使用Moin Camera时请关闭屏幕。
- 2.不要强行过度旋转屏幕以免损坏设备。

开始使用

录制/拍照

开机后，单击  录制按钮开始录制或拍照。当Moin Camera在录像模式时，单击录制按钮开始录制，当在拍照模式时，Moin Camera将进行静态影像拍摄。Moin Camera 初次开机后默认在录制模式。

切换录制拍照模式

1.快速切换

您可以短按  电源键切换拍照和录制模式。

2.拍摄模式切换菜单。

从屏幕下边缘往上滑，进入模式切换菜单






在模式切换菜单中切换所需模式。



回放影像

在相册中上下滑动可以查看相册中照片和视频的缩略图



- 选择影像：在缩略图界面单击影像缩略图可以选定对应影像文件。
- 播放影像：双击相册中的缩略图播放对应的照片或者视频影像。播放界面可以点击
- 收藏影像文件：在选定影像状态或播放界面中，点击白心  可收藏影像文件。当图标变为蓝心  时，影像文件已收藏，无法被删除。
- 取消收藏：在选定影像状态或播放界面中，点击  解除影像文件已收藏。当图标变为白心  时，影像文件锁定收藏，可以删除。
- 删除影像：在选定影像状态或播放界面中，点击  删除影像文件。

注意：

影像一旦删除，则无法复原。请在删除前先确认是否需要删除！

切换云台跟随模式

从屏幕上边缘下滑 ↓，打开设置菜单，点击跟随模式图标 ，即可切换云台工作模式。



• 云台跟随模式与对应图标：



跟随模式（默认模式）：此模式适用于大部分拍摄场景相机镜头横滚保持水平，航向与俯仰跟随手柄转动。可以同时实现左右转弯跟拍和俯拍到仰拍的跟拍动作



俯仰锁定模式：相机镜头横滚和俯仰朝向保持不变，航向与俯仰跟随手柄转动，可以实现左右转弯跟拍动作。




以上两个跟随模式支持人脸跟随（UI）。

- Moin Camera在自拍模式识别人脸以后将进行自动跟随。
- 镜头朝前时需要点击确认（UI）开始跟随（配合上UI图）



FPV模式：相机镜头各个方向完全均跟随机身，画面不再保持水平，适用于连续转动的场景。



归中：归中后镜头将水平朝向正前方。可以通过双击电源键或者从屏幕上边缘下滑，在设置菜单中点击  云台归中图标。

⚠ 注意：

当云台运动受阻时，会进入保护模式。进入保护模式以后，请保证云台运动不受阻情况下，单击屏幕解锁（UI图）重新唤醒云台。

• 云台跟随灵敏度设置

从屏幕上边缘下滑 ↓，在设置菜单中点击进入系统设置菜单，点击“云台灵敏度”。云台灵敏度可设置为：灵敏或柔和。



设定为灵敏，云台响应会更迅速；设定为柔和，云台响应会较为缓慢而平滑。

自拍模式

拍摄时，您可以通过以下操作快速将云台朝向前后切换成自拍模式。

三击  电源键：自拍模式

或者从屏幕上边缘下滑 ，在设置菜单中点击  自拍切换图标

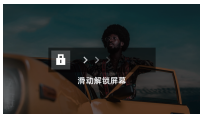
屏幕锁定与解锁

● 屏幕锁定

从屏幕上边缘下滑 ，在设置菜单中点击  屏幕锁定图标可以将Moin Camera 屏幕锁定。屏幕锁定以后将自动黑屏。

● 屏幕解锁

屏幕锁定状态下单击  电源键或双击屏幕然后滑动屏幕上的解锁图标解锁。



进阶拍摄指南

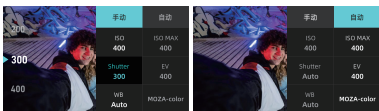
切换自动/手动模式进行拍摄

● 手动与自动模式切换

Moin Camera 默认为自动模式进行拍照/录制。

从屏幕右边缘往左滑动，可以打开拍摄参数调整

菜单。在菜单中点击“手动”即可切换至手动模式。在手动模式下，点击“自动”即可切换至自动模式。



● 调整拍摄参数

自动模式下可以调整的参数：

自动ISO感光度最大值 (MAX ISO)：相机将在设定的最大感光度范围内，根据亮度自定设定感光度。



最大感光度可以在ISO100-3200之间设定，设定步长为1EV。

曝光补偿 (EV)：通常情况下，由相机自动设定曝光。以自动设定的曝光值为基准，向+方向补偿时影像整体变亮，向-方向补偿时，整体变暗。

1.可以在-2.0EV至+2.0EV的范围内设定数值

2.曝光补偿设定步长为1/3 EV

手动模式下可以调整的参数：

快门速度 (Shutter)： 设置喜好的快门速度进行静态或动态影像拍摄。快门速度数字越小，意味着快门越快。

白平衡 (WB)： 设置偏好的白平衡模式。

自动/日光/阴天/白炽灯/荧光灯/水中自动
/D4000/D5000/D9000/D10000

ISO感光度： 手动设定偏好的感光度，数值越大，感光度越高。设定范围为ISO100-3200，设定步长为1EV。

 感光度越高，噪点越多。

拍摄静态影像

● 普通拍照

默认拍照模式为普通拍照。短按录制键 ，即可拍摄静态影像。

调整静态影像质量

在预览界面从屏幕右边缘往左滑  打开拍摄参数调整菜单。点击JPEG+DNG，即可拍摄RAW照片

* 可以通过此菜单设置拍摄JPEG格式照片或者JPEG副本+DNG格式照片。

JPEG： 以JPEG格式记录影像

DNG开： 在记录JPEG图像同时记录显像处理前的数据（RAW文件），像根据专业用途适用电脑进行后期处理时选择，记录格式为DNG。

注意：

本机拍摄的RAW文件为DNG格式

在预览界面点击  下方  进入模式调整菜单

调整照片画面比例

在模式调整菜单，“比例”子菜单中，可以将画面比例设置为4：3或者16：9。

设定拍照倒计时

您可以设定倒计时以方便进行自拍或者合拍。倒计时设定值可以为：0/1/2/3/4/5/10 秒。

● 包围曝光

按照标准-黑暗-明亮的顺序自动改变曝光进行拍摄（包围曝光连拍）。可以拍摄后选择喜欢的影像。

在预览界面点击  下方  图标进入模式调整菜单

调整曝光步长：

可根据需求调整曝光步长和拍摄张数。曝光步长可设置为1/3 EV 拍摄三张,1/3 EV拍摄五张, 2/3EV拍摄3张。

调整曝光步长：

可根据需求调整曝光步长和拍摄张数。曝光步长可设置为1/3 EV 拍摄三张,1/3 EV拍摄五张, 2/3EV拍摄3张。

调整照片画面比例：

可以在模式调整菜单中调整画面的比例。可以调整为16: 9或4: 3。

● 照片连拍

设置连续拍摄后，单击  录制键，相机将自动连续拍照一定张数的照片。

在预览界面点击  下方  图标进入模式调整菜单

设置连拍张数

设置按下录制键以后，在“速率”子菜单设定自动连续拍照的张数。张数可以设置为3/5/7/9张。

调整照片画面比例

可以在模式调整菜单中调整画面的比例。可以调整为16: 9或4: 3

● 延时拍照

此模式下，短按录制键以后，按照预先设定的拍摄间隔自动重复进行静态影像拍摄。再次短按录制键可以停止拍摄。



Moin Camera 在此模式下拍摄的是静态的影像，且无法在此模式中直接创建动态影像。如需创建动态影像，请使用电脑软件（例如：Photoshop, LRTimelapse）进行后期合成或使用延时录影模

在预览界面点击  下方  图标进入模式调整菜单

设置延时拍照间隔

可以根据需求，设置延时拍照的间隔。可以设置的时间为0.5/1/2/3/5/10 秒。

调整照片画面比例

在模式调整菜单，“比例”子菜单中，可以将画面比例设置为4: 3或者16: 9。

- 全景模式 

在预览界面点击  下方  图标进入模式调整菜单
调整全景模式拍摄张数

可以根据需求，调整拍摄张数为1x3或者3x3。


 Moin Camera 在此模式下拍摄的是静态的影像，机内不提供合成功能。请使用MOZA Artist App进行后期合成或回放。

拍摄动态影像

- 普通录像 

默认录像模式为普通录像。短按  录制键，即可拍摄动态影像。

MOZA Color:

在预览界面从屏幕右边缘往左滑 ，打开拍摄参数调整菜单。MOZA Color为录像色彩滤镜，仅能在普通录像模式下启用。打开后将提供独特的色彩滤镜。

预览界面点击  下方  进入模式调整菜单
调整分辨率

在模式调整菜单“分辨率”中，可以将分辨率设置为720P/1080P/2.7K(4:3)/2.7K/3.2K/4K/4K(4:3)。

调整帧率:

您可以设定录制时的帧率，可设定的帧率在不同分辨率下有所不同


循环录影

此功能仅能在普通录影模式下使用，时长可以设置成关闭/1/2/3/5分钟。

注意:

普通录像支持循环录像，循环录影功能打开以后，如果卡录满以后，就会从最前面覆盖之前录像的片段。

- 延时录影 

此模式下，短按  录制键以后，按照预先设定的拍摄间隔，拍摄时长，成片分辨率拍摄并合成延时视频。录制过程中短按录制键可以提前停止拍摄。

 此模式下Moin Camera将自动合成延时视频，视频帧率为30FPS。

在预览界面点击  下方  图标进入模式调整菜单

时长: 录制的时长，请注意此时长不等于延时视频的时长。

间隔: 延时拍摄时，两张静态照片拍摄的间隔时间。

分辨率: Moin Camera合成的延时视频的分辨率

- 慢动作 

此模式下，短按  录制键以后，将拍摄慢动作视频。

在预览界面点击  下方  图标进入模式调整菜单

分辨率：Moin Camera 所生成的视频分辨率

倍数：Moin Camera 所拍摄的慢动作视频的放慢倍率。



设备自定义

从屏幕上边缘往下滑动，可以进入设置菜单。

设置屏幕亮度

在设置菜单中，点击  调整屏幕亮度。

点测光设置

在设置菜单中，点击  进入调整点测光设置菜单。在预览界面将测光点移动至需要的位置确定好位置后，点击  确定，设置生效。

 注意：直接点击退出，本次修改不生效。

网格设置

在设置菜单中点击  进入系统设置，点击“网格设置”

九宫格：预览界面显示九宫格辅助线

米子格：预览界面显示米子格辅助线

关闭：预览界面不显示辅助线

语言选择

在设置菜单中点击  进入系统设置，点击“语言选择”。在语言选择菜单中切换系统语言。

自动息屏与自动关机

可以设置Moin Camera 在一段时间不操作以后自动息屏或自动关机

- 自动息屏

在设置菜单中点击  进入系统设置，点击“自动息屏”。

自动息屏可以设置为1-5min或从不开启。息屏以后，按机身任意按键或双击屏幕可以点亮屏幕。

 注意：
照片回放时，自动息屏不生效。

- 自动关机

在设置菜单中点击  进入系统设置，点击“自动关机”。

自动关机可以设置为1-5min或从不开启。

⚠ 注意：

当设备处于以下模式时，自动关机不生效：

- 拍摄动态影像时
- 延时摄影时
- 回放时

无线设置

在设置菜单中点击  进入系统设置，点击“无线设置”。

无线信息：查看本机的无线名称和连接密码信息

无线频段：可以将Moin Camera无线频段设置为2.4G/5.8G/自动

重置连接：将无线名称和连接密码重置为出厂设置。

⚠ 注意：无线的5GHz频段不能在户外使用

恢复默认设置

在设置菜单中点击  进入系统设置，点击“恢复默认设置”后设备将自动重启，重启后将设备设置恢复成出厂设置。

系统设置其他设置项：

格式化存储卡：点击后将格式化插入设备的存储卡。

拍照水印设置：可在视频和照片上显示水印。位置在视频照的右下角位置。水印可以设置为：**日期/日期时间/关闭**

⚠ 注意：以下分辨率设置下无法设置水印：4K 60FPS/1080P /200P和720P/240P。

视频静音：打开以后将录制静音的视频。

提示音：打开或关闭操作提示音

循环录影：可以设置循环录影。此功能仅能在普通录影模式下使用，时长可以设置成关闭/1/2/3/5分钟。

版本信息：查看设备固件版本信息。

连接App说明

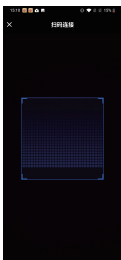
1.点击设备连接



2.点击“扫描WIFI二维码”



3.扫描WIFI二维码



4.连接成功



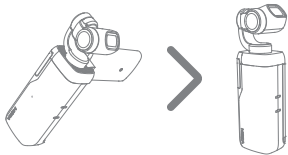
常见问题排错

云台进入保护模式

当云台运动受阻时，会进入保护模式。进入保护模式以后，请保证云台运动不受阻情况下，单击屏幕解锁（UI图）重新唤醒云台。

云台不正

当Moin Camera在非水平位置开机（俯仰有倾角开机），开机以后，俯仰将保持开机前的倾角。如需将俯仰轴恢复到水平位置，请双击归中。



云台在机身仍发热时无法充电

电池处于过温充电保护状态，需等待电池温度低于40°C时即可恢复充电。

整机出现死机，按键无作用，无法关机

固件异常导致，使用回形针捅一下机器底部复位键。

插入卡后，相机提示低速卡，无法录像/拍照

使用Class10以下低速卡或容量低于16G的TF卡会报错，需使用推荐列表符合要求的U3/V30TF卡。

参数列表

| | | |
|---------|-----------------------|--|
| 尺寸 | 129×37.8×32mm | |
| 重量 | 176g | |
| 云台 | 结构转动范围 | 平移: -250°~+70° |
| | | 俯仰:-120°~98° |
| | | 横滚: ±90° |
| | 可控转动范围 | 平移: -230° to +50° |
| | | 俯仰:-95° to 50° |
| | | 横滚: ±45° |
| | 最大控制转速 | 120°/S |
| | 抖动抑制量 | ±0.005° |
| | 镜头 | FOV:120° F2.2 |
| | | 35mm等效焦距: 14mm |
| | ISO范围 | 拍照: 100~3200, 步长1EV |
| | | 录像: 100~3200, 步长1EV |
| | 快门速度 | 60S~1/8000S, 电子快门 |
| | 拍照最大分辨率 | 4000X3000, 12MP |
| | 延时录影 | 延时录影/轨迹延时分辨率: 4K(4:3)/4K/3.2K/2.7K/2.7K (4:3)/1080P间隔: 0.5S/1S/2S/3S/4S/5S时长: 1min/2min/3min/4min/5min/∞ |
| | 普通录像 | 4K:3840X2160 @ 60/50/48/30/25/24P 4K(4:3):3840X2880 @ /48/30/25/24 3.2K: 3200x2400 @ 30/25/24P FHD:1920X1080 @ 200/120/100/60/50/48/30/24P HD:1280X720 240/200/120/100P 2.7K:2704X1520 60/50/48/30/25/24P 2.7K (4:3) :2704X1520 60/50/48/30/25/24P |
| | | 720: 4X;8X 1080P: 4X; 8X |
| | 照片拍照模式 | 单张照片, 全景照片, 静态延时, |
| | 录影模式 | 普通录影; 慢动作; MOZA-color |
| | 视频最大码流 | 100Mbps |
| | 支持文件系统 | exFAT (FAT64) |
| 图片格式 | JPEG/JPEG+DNG | |
| 视频格式 | mp4 (MPEG-4AVC/H.264) | |
| 推荐存储卡类型 | MicroSD, V30速率 | |
| 容量 | 16~256G | |
| 音频格式 | 48KHZ, AAC | |

| | | |
|------|---------------------------------|---|
| 屏幕 | 2.45英寸 | 480X272 可翻转屏 |
| | IPS LCD | 翻转角度: 上下翻转-90°~+60° 90°开合。 |
| 连接 | Wi-Fi工作频率 | FCC/CE/SRRC: 2.400-2.4835 GHz, 5.725-5.850 GHz (DFS) |
| | | MIC:2.400-2.4835 GHz |
| | | Wi-Fi协议 |
| | 蓝牙工作频率 | 2.400-2.4835 GHz |
| | 蓝牙协议 | BLE 4.2 |
| | 类型 | 锂离子电池 |
| 电池 | 容量 | 950mAh |
| | 能量 | 7.14Wh |
| | 电压 | 7.68V |
| | 使用环境温度 | 0°C至40°C |
| | 工作时间 | 145min |
| | | (1080/30fps单机拍摄时测得) |
| 充电时间 | 90min (5V/2A充电功率, 魔爪实验室测试环境) | |

注意：工作时间以及充电时间为实验室环境测试，仅供参考。

联系魔爪技术支持

微信扫描关注“魔爪稳定器”

人工服务：菜单栏->精选服务->人工服务

服务热线：4006403135

产品保修条例

保修期自购机日起，产品主体保修12个月。外壳、说明书、USB线材、包装等不在“一年免费保修服务”范围内，您可以选择有偿服务。自购机日起7日内，产品出现性能故障，并经特约维修中心检测，确认非人为损坏的本身质量问题，您可以选择退货、换货或修理。

购机日起第8日至第15日内，产品出现性能故障，并经特约维修中心检测，确认非人为损坏的本身质量问题，您可以选择换货或修理。但是更换的范围，只限于产品主机，其他配件无质量问题，不能更换。

购买者在以下条件下不享受免费保修服务，您可以选择有偿服务：

1. 超过三包有效期的；
2. 无三包凭证及有效发货票的，但能够证明该产品在三包有效期内的除外；
3. 保修凭证上的型号与修理产品型号不符或者涂改的；
4. 非本公司特约维修人员拆动造成损坏的；
5. 因不可抗力造成损坏的；
6. 未按产品使用说明书要求使用、维护、保养而造成损坏的。

产品保修卡

| | | | |
|------|--|------|--|
| 产品型号 | | 购买日期 | |
| 用户姓名 | | 用户电话 | |
| 产品条码 | | | |
| 通讯地址 | | | |

(签章)

