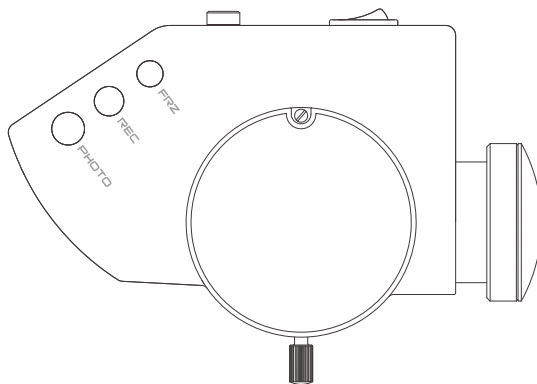


Prosidio's Model 1 Microscope Camera System

User Manual

(Please read this manual carefully and check intended use prior to installing camera system to microscope)



ALLCAM2-UM02-EN

Version: B4

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Product Information:

Product Name: Model 1 Microscope Camera System

Date of Manufacture: Please see the instrument label

Manufacturer:

Prosidio

Headquarters: Purchase, NY

E-mail: service@prosidio.com

Tel: + 1 (914) 510-2314

Website: www.prosidio.com

After-Sale Service Provider:

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Safety Information

Prior to using this device, you must read the safety info and understand the meanings of these symbols:

Warning Symbols

The following safety information has been incorporated into the user manual. Please note these symbols and pay particular attention to the information associated with them.



Warning, indicating that there is potential hazard, failure to follow the instructions may pose a risk of harming users or product failure.



Note, promoting the user of the device, or providing the useful information to the user.

Information Symbols

The item symbols used in this User's Manual are defined as follows:

● Bullet points.

✓ Indicates preconditions that must be met prior to the operating the device.

- ▶| Indicates that there is a sequential relationship between items listed, and the next step can be carried out only after the previous step has been completed.
 - Indicates the result that occurs after a step or procedure has been completed.
-

The Meaning of Other Figures, Symbols and Contractions

Target Population

This product is intended to be used by qualified physicians and dentists with experience using operative microscopes.



This user manual is intended to provide guidance for the end user to safely install the product, use and troubleshooting the device.

Intended Use

MODEL 1 MICROSCOPE CAMERA SYSTEM is a camera device that is for use with Prosidio's Model 1 operative microscope.

Normal Use

MODEL 1 MICROSCOPE CAMERA SYSTEM requires the Model 1

operative microscope for use. The product can also be used with a beam splitter adaptor if required.

Intended Service Life

10 years

Working Environment

- Ambient Temperature Range: -10°C - +50°C;
- Relative Humidity Range: 10% RH - 80% RH;
- Barometric Pressure Range: 700 hPa-1060 hPa;
- Power Supply: DC 5V/2.6A

Storage Environment

- Ambient Temperature Range: -5°C-+40°C
- Relative Humidity Range: <60% RH;
- Barometric Pressure Range: 500 hPa-1060 hPa

Safety Characteristics

- Supply Voltage: DC 5V
- Classified by input fluid protection degree: IPX0;

- Max input power: 7.5W

Information on Power Adapter

- Input: AC 100-240V, 50-60Hz。
- Output: DC 5V/2.6A

Attention

- Please thoroughly familiarize yourself with the contents of the user manual before using the device. Also observe the user manuals for accessories and other system components.
- Please keep the user manual where it is easily accessible at all times.
- ✓ Please observe all symbols and labels attached to the device!
- ✓ Modifications and repairs of this device may only be performed by PROSIDIO service staff or other persons authorized by PROSIDIO.
- ✓ Do not place any fluid-filled containers on top of the instrument. Make sure that no fluids can seep into the instrument.



Please familiarize yourself with any applicable local laws prior to operating the microscope with the camera system attached. If you have any questions, please contact your local PROSIDIO dealer.

Symbols and Labels on the Device

FRZ

1 Freeze live view / Pause Preview

REC


2 Start / Stop video recording

PHOTO

3 Save Still Image to SD card



4 Product Model

DC 5V 

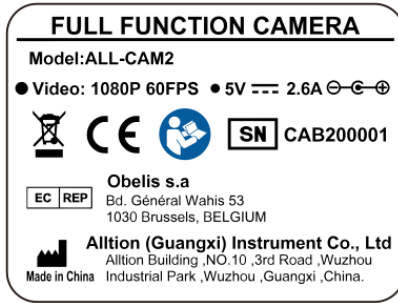
5 DC 5V, middle contact is positive

HDMI

6 HDMI Interface



7 Date of manufacture



8 Label

● Video: 1080P 60FPS

Image Parameter: 1080P 60FPS

● 5V 2.6A

Power Adapter: DC 5V, middle contact is positive



No dumping to dustbin directly



CE label



Caution, Follow the User Manual



Serial number



Authorized representative in the European Community



Manufacturer

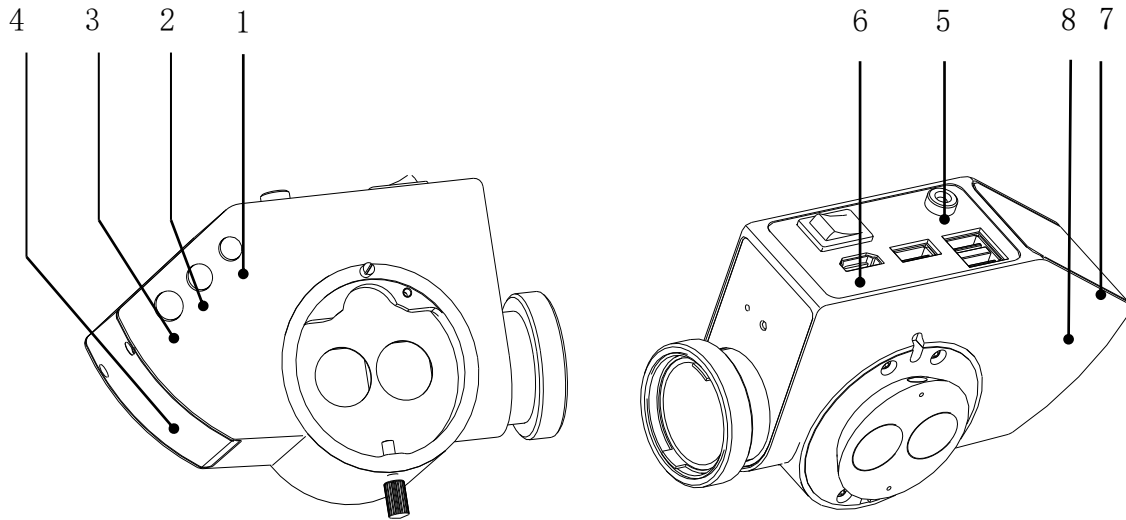


Fig 1: The Symbols of Product

Product overview

Product Features

- Compatible with the surgery microscope of suitable interface size
- Adopt Diagonal 1/2" SONY Image Sensor with high sensitivity and low noise
- Built-in Linux3.0 operation system --- internal ARM Cortex A7 dual core @Max.1.3 GHz
- HDMI interface 1080P 60FPS fully high definition real-time image output
- Support WIFI function, support WIFI image transmission (Use WINDOW system、 Android system and iOS(Apple) system client terminal software)
- Requires an external USB-drive for taking JPG image and recording video
- Camera parameters can be set with the mouse, and multiple groups of user parameters can be saved for the convenience of different users
- Photographing, video recording and image freezing functions are available with buttons
- The wireless remote control pedal is optional for photographing and video recording
- Built-in video zoom, image rotation function
- Built-in image and real-time video comparison function
- Wide Voltage Input: AC100-240V 50-60Hz

Product Composition

- 1 Main Unit
- 2 Power Adapter
- 3 Power Cable.
- 4 HDMI high definition video transmission cable: Long 5 meter
- 5 USB drive: Full version of the electronic manual is stored in USB disk memory.
- 6 WIFI hardware with USB interface (built in wireless network card, external network card is optional)
- 7 Wireless Mouse and keyboard

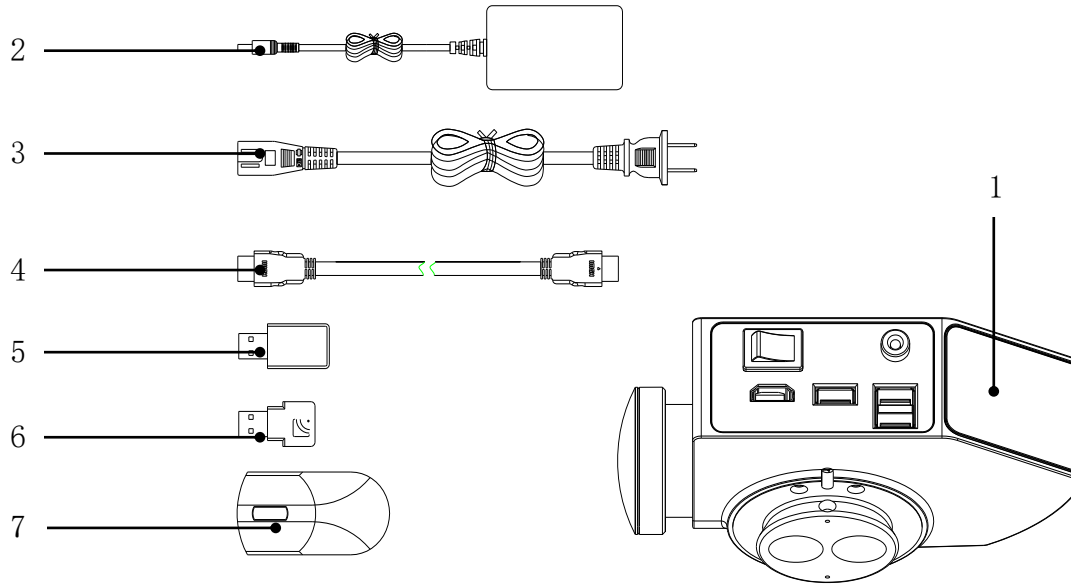


Fig 2: Product Composition

Product Overview

1	Photographing button	Press to take photo
2	Video recording button	Press it once to record video, press it again to stop video recording
3	Freezing button	Press it once for freezing the current image, press it again to unfreeze the image
4	Stop pin	Hold unit securely to operative microscope
5	Lock screw	Lock the bolts when assembling other accessories in the main unit
6	Optical splitter interface	With conventional optical splitter function
7	Pairing switch pin	Use a pin to allow pairing of the camera system with accessories
8	Wireless pairing indicator	This indicator of constant OFF, and lights on during wireless pairing
9	USB interface	Connect with USB drives, mouse, keyboard, USB WIFI module
10	Power socket	Connect with the adapter, DC 5V input
11	Power switch	Green indicator turns on when power switch is activated
12	HDMI output interface	HDMI A type interface, output real-time image

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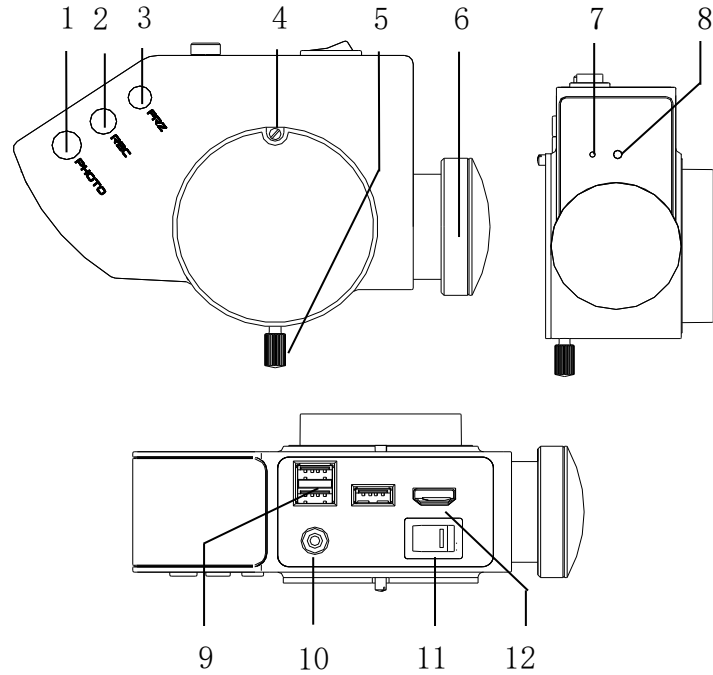


Fig 3 Product Overview

Main Technical Parameters

Technical Parameters		
Camera Features	Image Sensor	1/2 SONY CMOS with high sensitivity and low noise
	Output Interface	HDMI: 1
		USB2.0: 3
	Resolution	HD1080P 60FPS (16: 9)
	Store	Requires external USB drive (supports FAT32 and NTFS formats) Picture: JPG format, Video: MP4 format
	WIFI	Support WIFI function, support WIFI image transmission
	Power Supply	5V
	Power Consumption	6W
Physical Property	Weight	0.7kg
	Dimension	155*110*60
Optical	Camera optical splitter ratio	2:8 (Optical 5:5)

	Optical splitter interface ratio	2:8 (Optical 5:5)
Software	Video Setting	1080P, 720P
	Snap Setting	2M、5M、8M
	Base Functions	Freezing, Snap Image, Video Recording, Automatic Exposure, White Balance, Image Echo, Crosshairs
	Image Effects	Exposure Value, Best Brightness, Gain, Red Gain, Blue Gain, Saturation, Contrast, Sharpness, ALC, HDR, Customize user parameters
	Advance Functions	Horizontal Flip, Vertical Flip, Enlarge, Reduce, AOI, Image Contrast
	System Settings	Auto Name/Manu Name, Time Show/Time Hide, Show LOGO/Hide LOGO, Built-in WIFI/external WIFI, Language, Image resolution, Naming settings, System Update, Version Information
	Measuring function	Measuring Tool: P2P、P2L、L2L、C2C、P2C、L2C、Angle、Arc、Circle、Rect、Polygon、Crease、Text、Del All、Color Settings、To Pictures、To Excel, Calibrating Tool, Information, Ruler Display

Product Assembly

Installation of MODEL 1 MICROSCOPE CAMERA SYSTEM



Risk of injury to end-users and patients exists if the MODEL 1 MICROSCOPE CAMERA SYSTEM is not installed correctly and securely.

- Confirm that the interface between the microscope and the camera system are compatible prior to installation.
- Before use, ensure modules and accessories are secure and locked in position. Make sure that all securing screws and locking screws are firmly tightened.
- Never Install or remove the modules during a procedure or when a person is below the assembly

STEPS

- ◆ Unscrew the locked screws(1), take down binocular(3)
- ◆ Install MODEL 1 MICROSCOPE CAMERA SYSTEM (4) on the top of microscope, then screw the lock screws (1)
- ◆ Install binocular on the top of MODEL 1 MICROSCOPE CAMERA SYSTEM (4), screw the lock screws (2). Confirm that all screws are tighten.

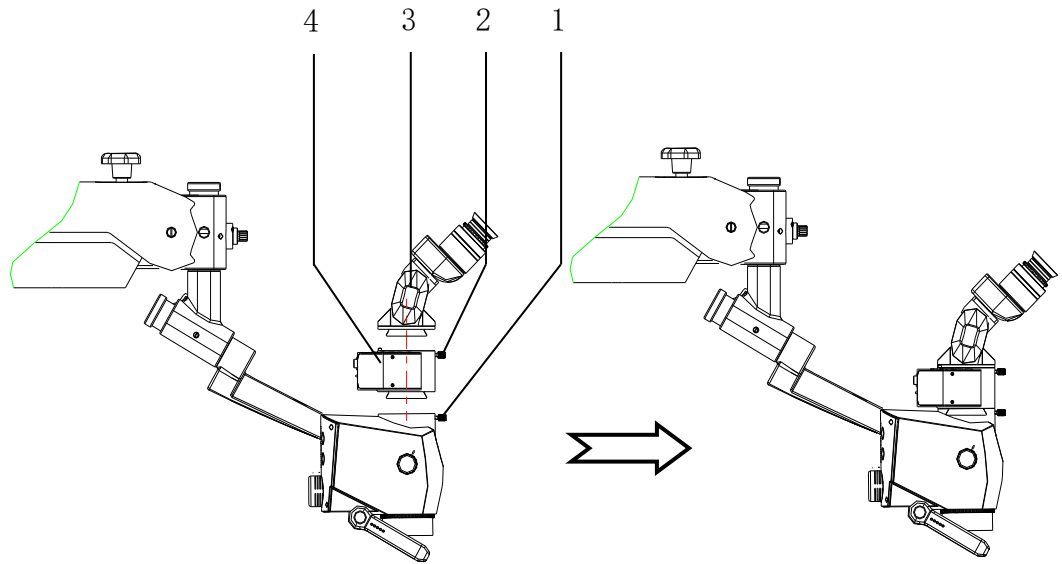


Fig 4: Installation of the MODEL 1 MICROSCOPE CAMERA SYSTEM to the Model 1 operative microscope

Wiring



Confirm the voltage of the power supply is correct.



Please check the input channel of the HDMI video transmission line is in line with the display channel of the display (not included).

Connect the wires according to the Fig 5 below:

Installation Confirmation

- ◆ Press the Power switch, observe if the Power indicator lights up;
- ◆ Observe if an image is displayed on the connected LCD, confirm orientation of the image matches the image seen through the eyepiece. If no image is seen, confirm the HDMI cable is correctly installed.

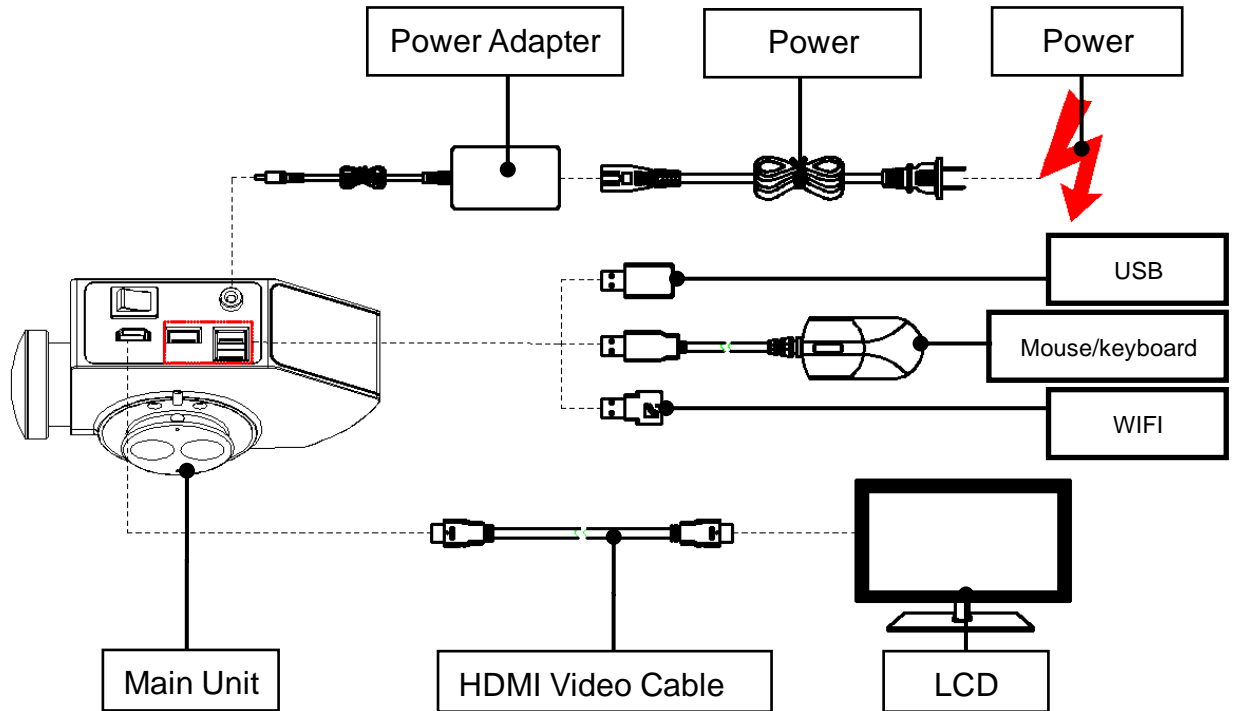


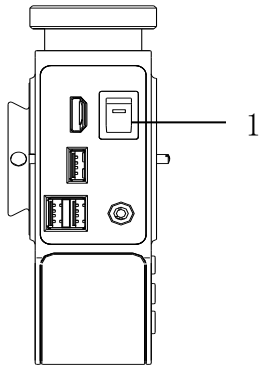
Fig 5: MODEL 1 MICROSCOPE CAMERA SYSTEM Wiring

Product Operation

Powering the System Up and Down

Prerequisite condition

- ✓ The power cable has been connected
- ✓ The HD video cable has been connected



Press the Power switch(1)

- The system has been switched on if the green power switch is illuminated.
- The Boot Interface is displayed on the monitor.

Wireless Remote Control Pairing



The wireless remote control should be paired automatically. If not, follow these steps:



Foot switch belongs to the selection of accessories

Prerequisite condition

- ✓ Confirm camera system is on.
 - ✓ Confirm Foot switch is switched on
-

- ◆ **Pairing:** Use a pin to press the pairing button (1) of the wireless module until the wireless pairing indicator (2) light turns on. Hold the photo button(3) of the foot pedal down for 4 seconds until the indicator (4) of pedal switch light on and light off. Then both the camera system and foot pedal indicators (2) (4) should flashes twice to confirm pairing has been completed.

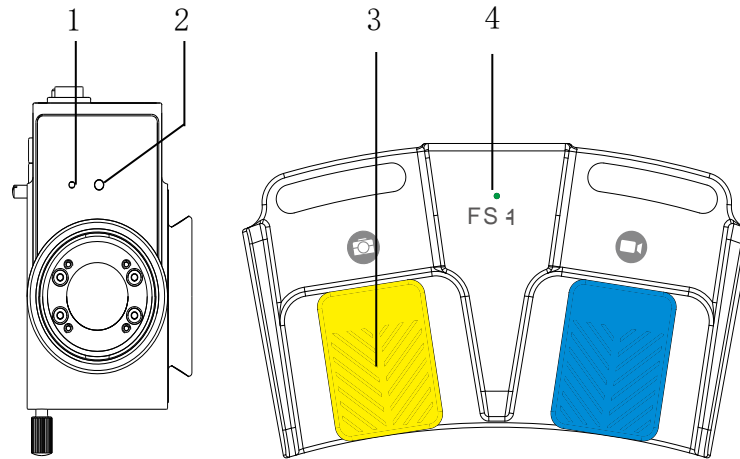
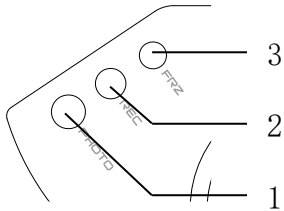
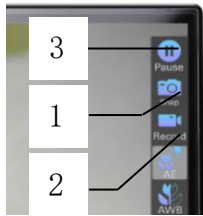


Fig 6: Wireless Remote Control Pairing

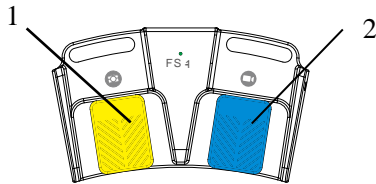
Photographing, Video Recording and Freezing



- Press button(1) for photographing
- Press button(2) once to record video, press it again to exit video recording
- Press button(3) once for freezing the current display image, press it again to exit image freezing



- Press button(1) for photographing
- Press button(2) once to record video, press it again to exit video recording
- Press button(3) once for freezing the current display image, press it again to exit image freezing



- Press button(1) for photographing
- Press button(2) once to record video, press it again to exit video recording

Photographing, Video Recording and Freezing Icon



Freezing Icon

- Once the picture in the camera is frozen, a pause icon located in the upper right corner in the display will appear.



Photographing Icon

- Photograph icon is shown on the upper right corner located in the display when a photo is taken.



Video Recording Icon

- Video icon is shown on the upper right corner located in the display should be seen when a video is recording.
- Video format is shown on the upper left corner located in the display during the video recording, along with the duration of the current recording..



Camera Operating System Introduction

Please refer to **MODEL 1 MICROSCOPE CAMERA SYSTEM Camera Operating System User's**

Manual) in the included USB for the introduction of the camera operating system.

WEB BROWSER

Mobile phones or computers can be connected with MODEL 1 MICROSCOPE CAMERA SYSTEM by WIFI. The camera's video can be displayed with a Web browser. More information can be found in the **Model 1 Microscope Camera System Camera's Web browser interface file** on the included USB.

Troubleshooting and After Sale Service

Troubleshooting

Faults	Possible Reason	Solutions
Power switch indicator not illuminated	External power supply is not connected correctly	Check if the external power supply is connected
	The power adapter is broken.	Check if the power adapter is working properly
No image is seen on a connected display	External display is not connected correctly	Check if the external display is operating normally. Confirm the correct input display is selected
	HDMI cable damage	Check if the HDMI cable for any sharp bends or visible signs of damage
	Display the Boot Interface, no image, menu functions available	Check if any image is visible through eyepiece. If image is seen, internal wiring may be damaged
	Display the Boot Interface, no image, menu functions unavailable	The software of the camera is damaged and needs to be replaced with the manufacturer.
Color distortion	The color calibration has been	Factory Reset, and white balance again

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	adjusted	
	White balance has not been performed	
System halted	The instrument runs slowly and is prone to crash.	Storing too many photos and videos can lead to slow response, Free memory space, and updating the system
	System crash	Reboot system or update system
	The instrument is overheat	Check the fan is operating correctly and nothing is obstructing it.
Image is not clear	Camera lens is dirty	Wipe the camera lens
	Incorrect focus	Adjust the focus
WIFI client terminal doesn't display image	Connect USB WIFI hardware or not	Check if the WIFI hardware is connected, check if the WIFI function is enabled
	Check if the IP address is correct	Check if the client terminal IP address matches the camera system's output IP address Update the system

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Non-functioning pedal switch	Not paired with camera system	Please pair according to the method described in the instructions above.
	The antenna of the pedal switch is not connected properly	Poor antenna connection will result in no signal to be transmitted and received, so ensure antenna is connected properly and the foot pedal is not out of range
	Damage of remote control module	(1) Press the pairing button at the receiving module to check if the red indicator is on; it should be on normally. If off the receiving module is damaged. (2) Press the Photo button of the pedal switch for 4 seconds, the green light will turn on for 4 seconds then off. Otherwise, the transmitter module is damaged.

After-Sale Service

Any unauthorized repair to the camera will void warranty. Please keep the original package case and materials.