The AIOCAMW Series All-in-One Camera Help Manual

Contents

1   AIOCAMW Series All-in-One Camera Application

Figure 1 The AIOCAMW Series All-in-One Camera

The AIOCAMW is a multifunctional all-in-one camera that integrates a 13.3-inch display and an image acquisition system. It is portable and can be used for microscopic video and image acquisition and processing. AIOCAMW is the abbreviation of All-in-One Camera with Windows System. Its main features are as follows:

- The camera and display screen are integrated together, eliminating wiring and facilitating installation.
- Built-in Intel® N150 processor with a maximum turbo frequency of up to 3.6 GHz.
- Pre-installed Windows operating system with touch support, Optional with a wireless keyboard and mouse.
- Uses a Sony CMOS sensor, supports large-format high-resolution sensors, and allows customized model development.
- Supports synchronous 4K60Hz video output via HDMI 2.0 or USB Type-C interfaces.
- Supports Gigabit Ethernet and WiFi 6 wireless networking; XCamView network digital interactive software will be provided for networked teaching applications.
- Comes with advanced video and image processing software applications, ToupView and ToupLite.
- Provides a Windows SDK supporting native C/C++, C#/VB.NET, DirectShow, and Twain API.

2   AIOCAMW Series All-in-One Camera Datasheet and Functions

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	Sensor Output (FPS/Resolution)	Binning	Exposure(ms)
AIOCAMW8MPA	IMX678(C) 1/1.8"(7.68x4.32)	2.0x2.0	3541mv with 1/30s 0.15mv with 1/30s	45@3840*2160 60@1920*1080	1x1 2x2	0.02ms~15s
AIOCAMW12MPA	IMX676(C) 1/1.6"(7.07x7.07)	2.0x2.0	3637mv with 12 bit converted value(HCG) 0.15mv with 1/30s	27@3536x3536 60@1768x1768	1x1 2x2	0.013ms~15s
AIOCAMW20MPA	IMX283(C) 1"(13.06x8.76)	2.4x2.4	462mv with 1/30s 0.21mv with 1/30s	15@5440x3648 50@2736x1824 60@1824x1216	1x1 2x2 3x3	0.1ms~15s

The panel interfaces of the AIOCAMW series all-in-one camera are shown in Figure 2 .

Figure 2 Available Ports on the Panel of the Camera Body

Interface	Description
Power	Power adapter connection DV 12V5A (5.5mm*2.5mm)
HDMI	HDMI-A 2.0 video output interface, supporting 3840×2160 @ 60 Hz
LAN Interface	RJ45 1000 Mbps LAN interface
Type-C	Supports 3840 × 2160 @ 60 Hz video output
USB Port	One USB 3.2 port and two USB 2.0 ports for connecting peripherals such as USB flash drives, keyboards, and mice
HP	Headphone Standard 3.5 mm output interface
MIC	Microphone Standard 3.5 mm input interface
Power Button	Light press to power on and start the system
LED	LED status indicator
Function Parameters	
Operating System	Windows 11 Pro
CPU	Intel@ Processor N150
CPU Frequency	0.8GHz
Maximum Turbo Frequency	3.6GHz
Number of CPU cores	Quad-core
CPU Thread	4-thread
Memory	8GB LPDDR5
Touch Method	Capacitive touch (G+FF), supporting multi-touch
Speaker Power	8 ohms, 1W

Storage	128GB SSD
WiFi	WiFi IEEE 802.11a/b/g/n/ac/ax+BT5.0
Power Consumption	Operating power consumption: 40W; Standby power consumption: 0.7W
Display Specifications	
Display Size	13.3-inch 1920×1080P 60Hz
Display Area	293.76(H) × 165.24(V)
Pixel	0.153×0.153 (H×V)
Brightness	400 cd/㎡ (Typ.)
Contrast	15000:1 (Typ.)
Refresh Rate	60Hz
Display Color	16.7M (8-bit)
Color gamut	71% NTSC(Typ.)
Response time	14ms
Operating Environment	
Operating Temperature (in Centidegree)	-10℃～50℃
Storage Temperature (in Centidegree)	-20℃～60℃
Operating Humidity	10~90%RH, non-condensing
Storage Humidity	5~95%RH, non-condensing

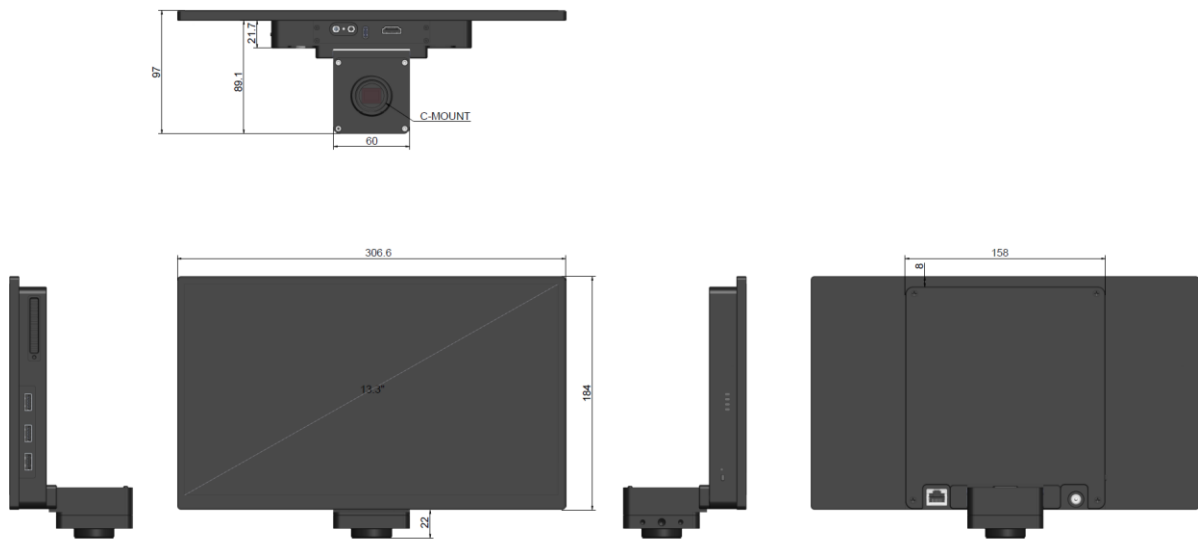## 3   Dimension of AIOCAMW Series All-in-One Camera

Figure 3 Dimension of AIOCAMW Series All-in-One Camera

4   AIOCAMW Series All-in-One Camera Packing Information

Figure 4 AIOCAMW Series All-in-One Camera Packing Information

	Standard Packing List	
A	Gift box: L:45cm W:27.8cm H:9cm (1pcs, 1.68Kg/ box)	
B	AIOCAMW Series All-in-One Camera	
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 5A China Standard:Model: POWER-12V5A(HKA06012050-0A7) + China standard cord American standard: Model: POWER-12V5A(HKA06012050-0A7) + American standard cord European standard: Model: POWER-12V5A(HKA06012050-0A7) + European standard cord British standard: Model: POWER-12V5A(HKA06012050-0A7) + British standard cord	
	Optional Accessory	
D	USB Wireless Keyboard and Mouse Set	

5   AIOCAMW Series All-in-One Camera Software Usage

The AIOCAMW series all-in-one cameras come pre-installed with genuine Windows 11 Pro. Customers can download ToupView or ToupLite software for use by visiting the website: https://www.touptekphotonics.com.cn/download/ The Toupcam SDK is also available for secondary development.

6   AIOCAMW Series All-in-One Camera Configurations

The AIOCAMW series all-in-one camera provides external video output interfaces including HDMI 2.0, USB Type-C, Gigabit Ethernet, and WiFi 6. you can use the AIOCAMW series all-in-one camera in 3 different ways.
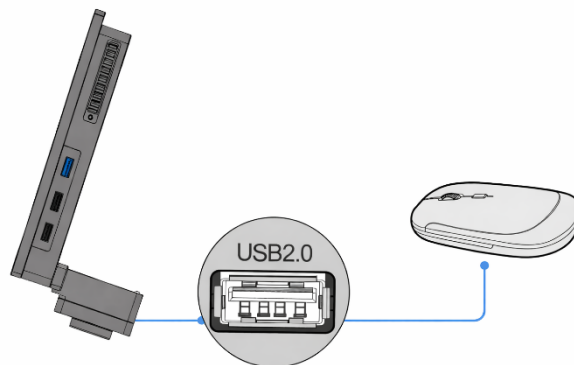
6.1   Connect the AIOCAMW series integrated camera to a wireless keyboard and mouse, then install ToupView or ToupLite for use.
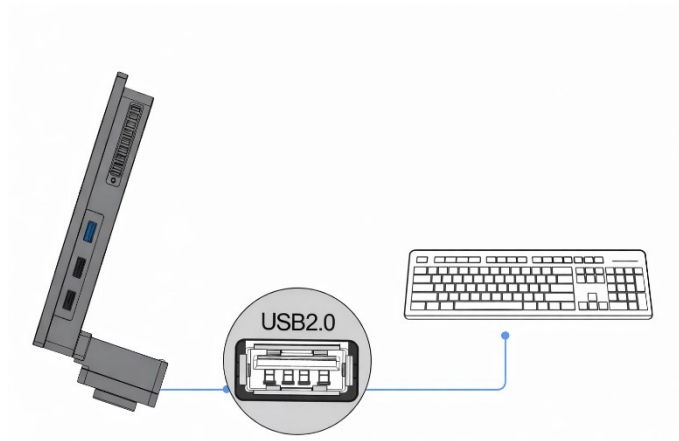

Figure 5 AIOCAMW Series All-in-One Camera with the HDMI Monitor

This application requires an AIOCAMW series all-in-one camera, a USB wireless mouse, a USB wireless keyboard, and a power adapter. The setup steps are as follows.
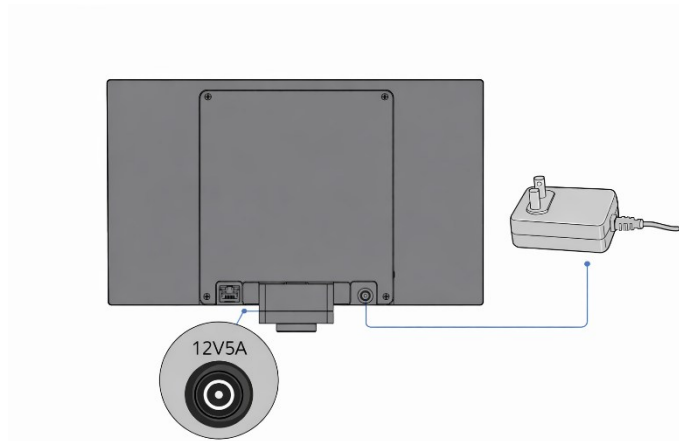
● Insert the USB wireless mouse into the right side of the AIOCAMW series all-in-one camera USB2.0 slot;

● Insert the USB wireless keyboard into the right side of the AIOCAMW series all-in-one camera USB2.0 slot;

● Insert the supplied power adapter into the DC12V5A power input on the rear of the AIOCAMW series all-in-one camera.;
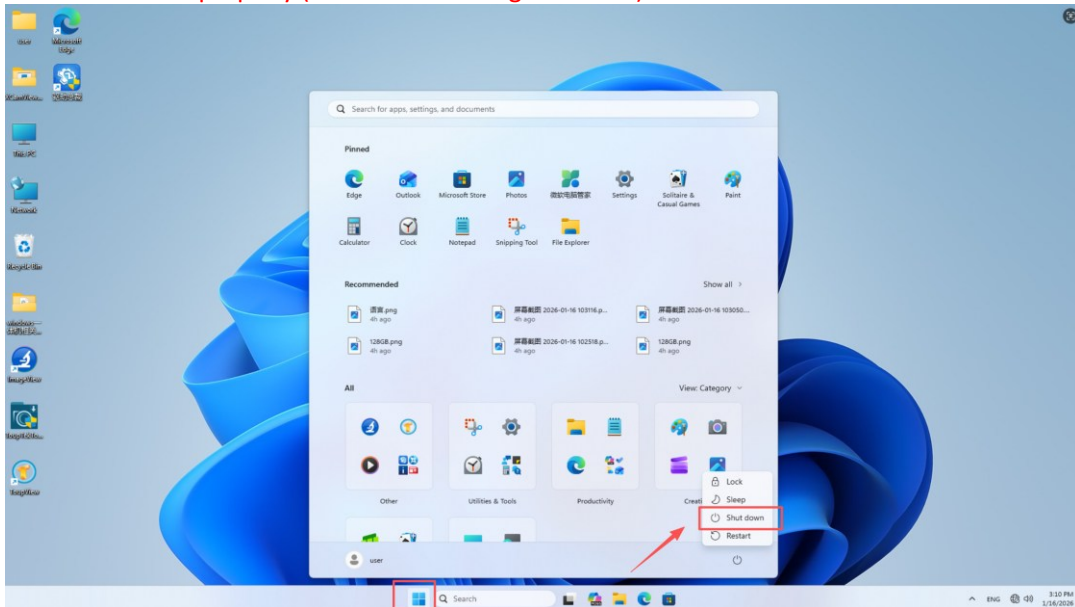

● Short press the power switch on the left side of the AIOCAMW series all-in-one camera, the device will automatically start and enter the Windows system interface as shown in Figure 6.

Figure 6 AIOCAMW Series All-in-One Camera Windows Interface

● Note: To avoid system malfunctions or data corruption, do not disconnect the power supply directly or plug/unplug the power adapter arbitrarily. Please be sure to select "Shut down" in the Windows system to power off the device properly (as shown in the figure below).

● The official ToupView / ToupLite software can be downloaded and installed by following the instructions in Sec 5. Double-click to open the ToupView / ToupLite software. clicking the camera name in the Camera List group to start the live video as shown in Figure 7.
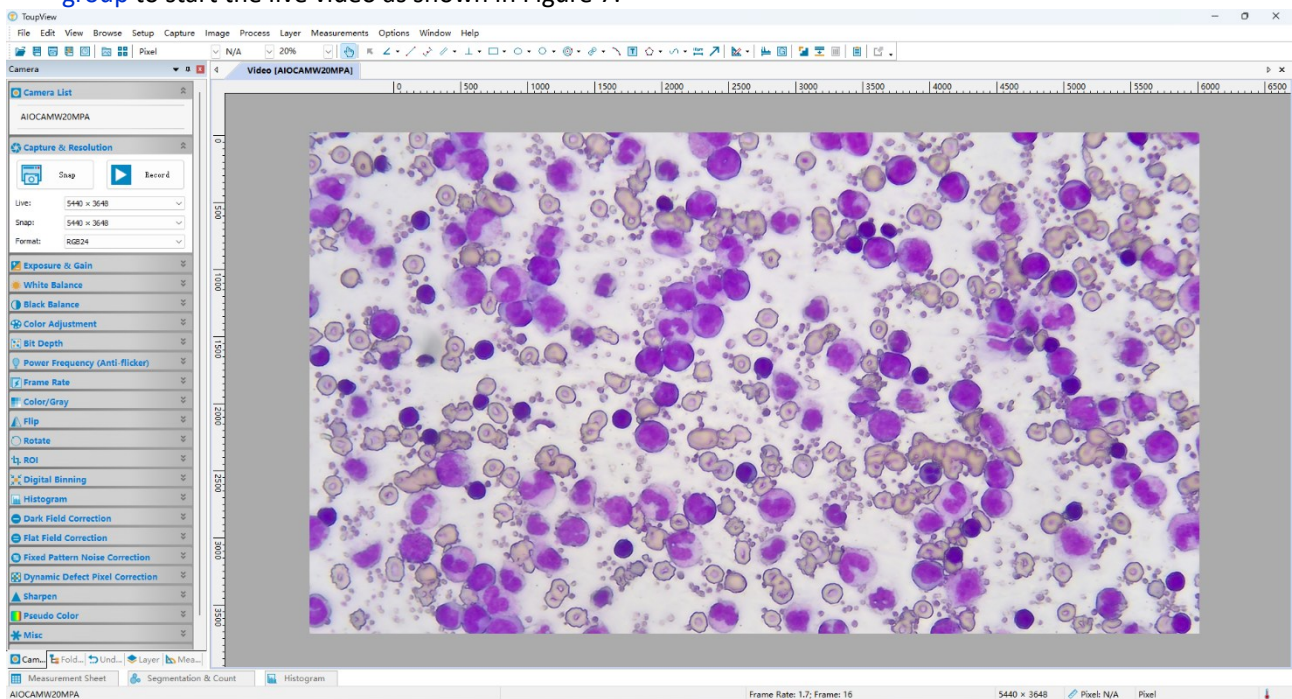

Figure 7 AIOCAMW Series All-in-One Camera Connected to ToupView / ToupLite

6.2 Using the AIOCAMW Series All-in-One Camera as an Extended Windows Display via HDMI 2.0 / Type-C Interfaces

This application requires the user's display to support an HDMI / Type-C interface. The setup steps are as follows.

● Start the camera according to Sec. 错误!未找到引用源。. Use an HDMI or Type-C cable to connect the AIOCAMW series all-in-one camera to a display equipped with an HDMI or Type-C interface as shown in Figure 8.

Figure 8 AIOCAMW series all-in-one camera is connected to the display via an HDMI or Type-C cable.

● Turn on the display to show the real-time image from the AIOCAMW series all-in-one camera.

6.3 Multiple AIOCAMW series all-in-one cameras can be connected to a switch or router LAN or WiFi to form a digital interactive teaching system (XCamView digital interactive software will be provided later)

Multiple AIOCAMW series all-in-one cameras can be networked LAN or WiFi mode by connecting to a switch or router. When used together with the XCamView digital interactive teaching software (to be provided later), a digital interactive teaching system can be built to enable unified management of multiple device displays and interactive teaching.
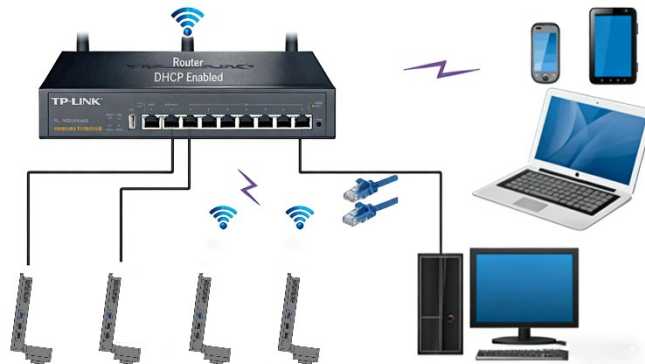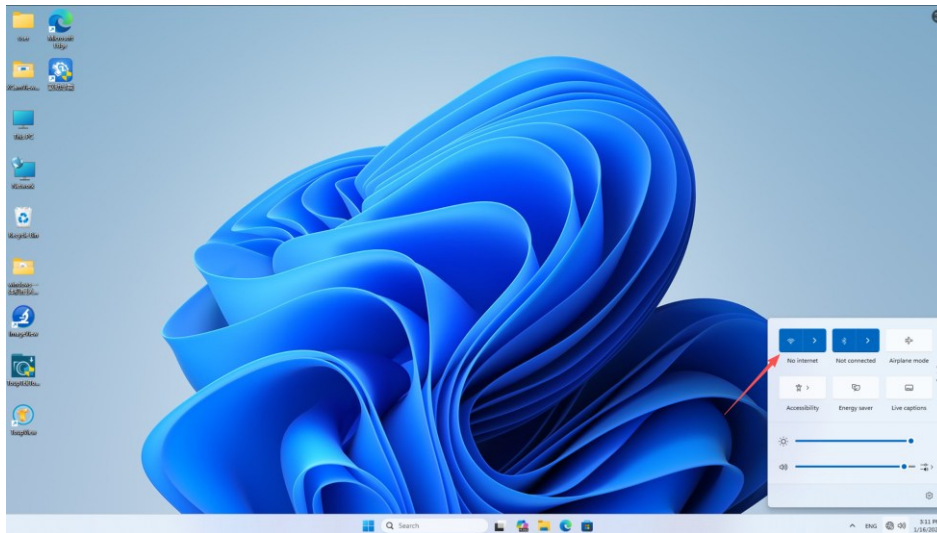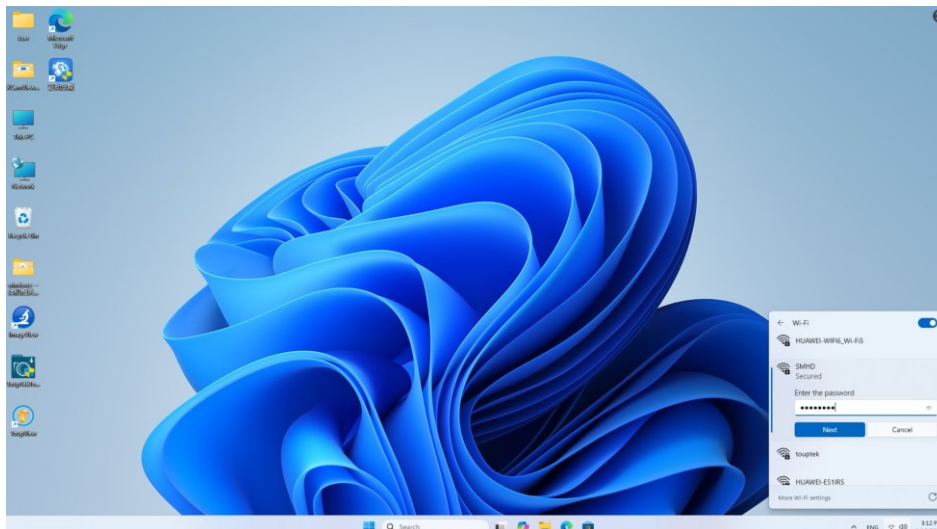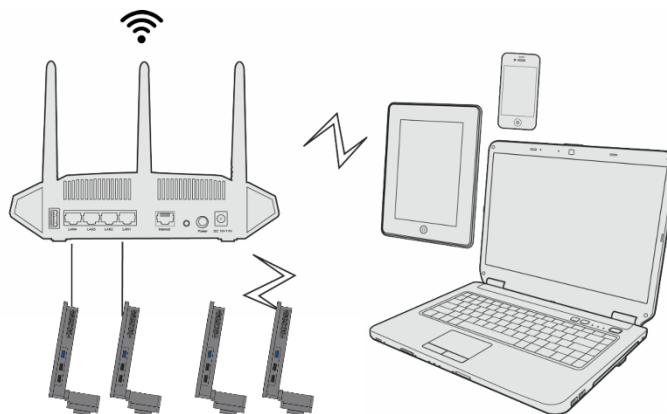

Figure 9 Multi AIOCAMW Series All-in-One Cameras Connecting to the Router through the LAN / WiFi

Start the camera according to Sec. 6.1. Move the mouse to the bottom of the interface.

● Click the internet 🌐 icon, click Internet > Wireless and configure the settings as shown in the upper figure. Select the desired router's wireless network name (SSID), and enter the router's password as shown in the figure below.

● Alternatively, connect one end of the LAN cable to the AIOCAMW series all-in-one camera, and connect the other end to the router. (Specifically for cameras connected to the router via the LAN interface)

● Finally, as shown below, 4 AIOCAMW series all-in-one cameras are connected to the same router with WiFi /LAN mode, the number of the cameras are determined by the router performance;(**Note:** In teaching scenarios with high stability requirements, it is recommended to prioritize the use of a wired network.)

● Ensure that the PC or mobile device is connected to the switch or router LAN or WiFi. Launch the XCamView digital interactive teaching software to start using the digital interactive teaching system immediately.

About the routers/switches

It is suggested that routers/switches supporting WiFi 5/WiFi 6 should be selected to achieve better wireless connection experience.

7 Contacting Customer Service

Please contact your local distributor if you have any questions about the product.