

4K HDMI+USB+SD Digital Camera, Mouse Measure





HDMI/NETWORK/USB Multi-outputs C-mount CMOS Camera

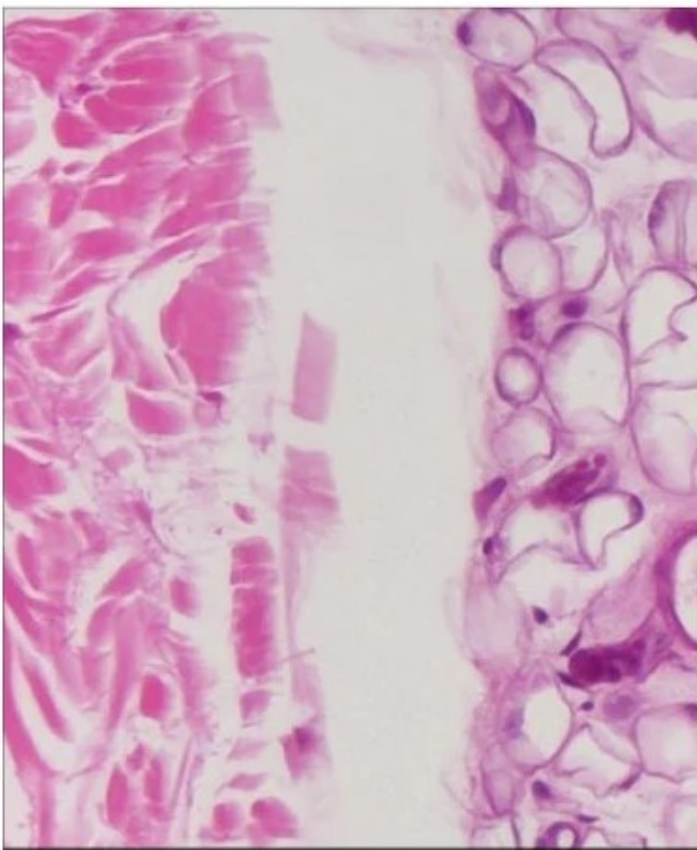
camera is the next-generation live-view imaging-system with 4K resolution (Video) at 70 FPS. It comes with Sony Exmor CMOS sensor with high sensitivity, low dark current and no smear achieved through the adoption of R, G and B primary colour mosaic filters.

uses a standard C-mount interface for maximum compatibility with various microscopy-systems. It can be used as a stand-alone recorder when used with an HDMI monitor or television, or live-streamed to a PC via NETWORK/USB for image-capture and video-recording.

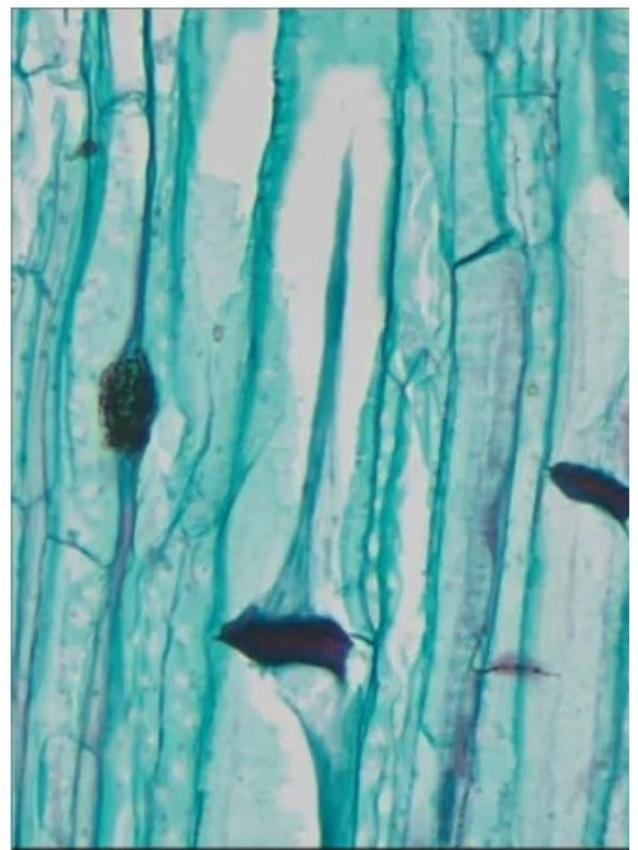
Hardware 3D denoising, sharpness and tone mapping control functions greatly improve the image and video quality.

The included Windows software offers image-development and measurement tools, as well as advanced compositing features such as image-stitching and extended-depth-of-focus. With the ability to calibrate scales at multiple magnifications, the software can be used for multi-level inspection. For Mac and Linux, there is a lite version of the software which can capture video and still images, and includes limited processing features.

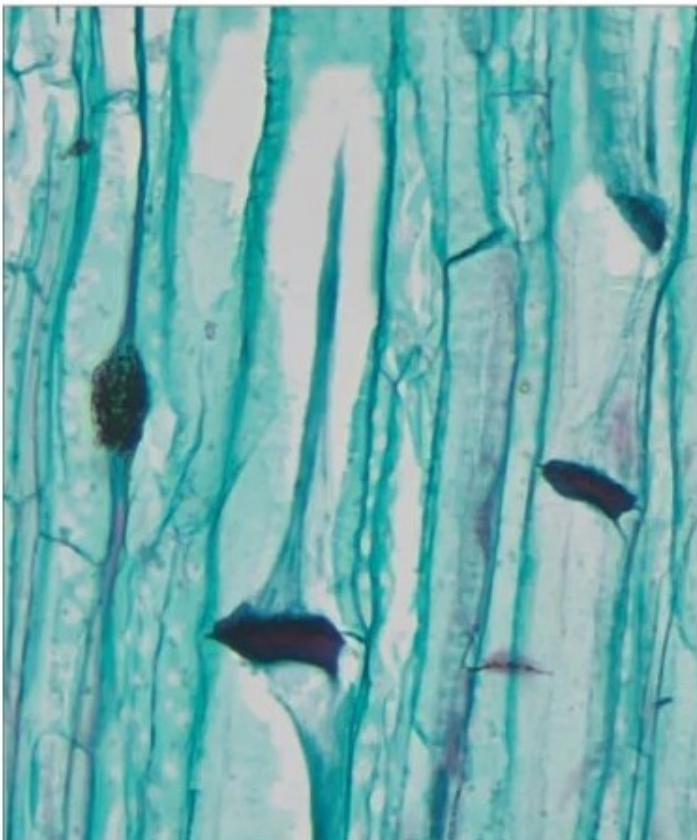
4K series camera is intended to be used for the acquisition of digital images from the stereo microscope, biological microscope or online interactive teaching.



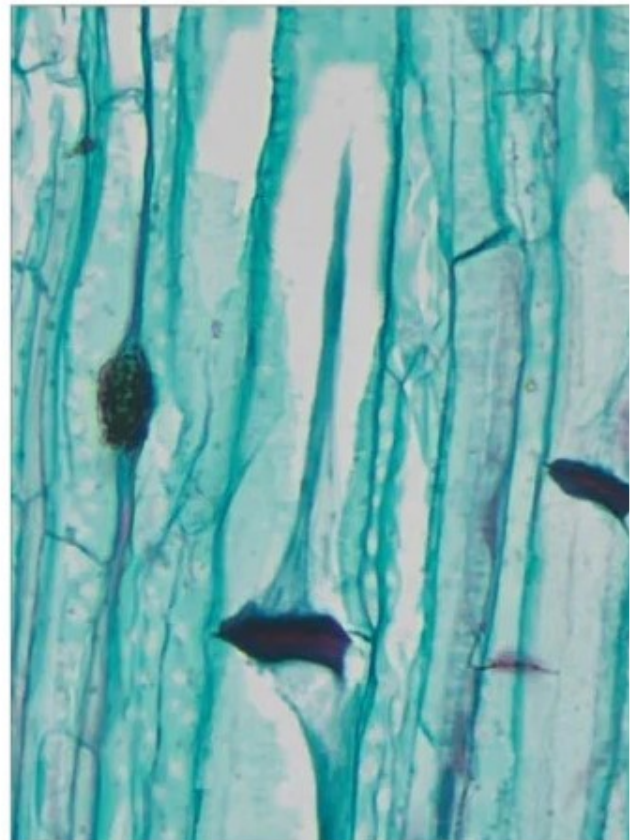
HDMI Mode



USB Mode



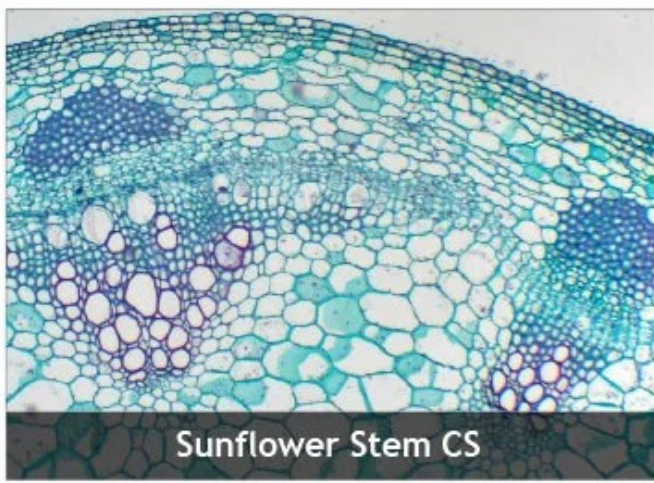
LAN port / WiFi STA mode



WiFi AP Mode



- Sony STARVIS 2 back-illuminated CMOS sensor
- 4K HDMI/ NETWORK/ USB multiple video synchronous outputs
- 4K/1080P auto switching according to monitor resolution
- High frame rate output, supporting up to 4K 75fps
- Support 4K 60fps low delay HDMI output mode, with an average delay of 40ms
- SD card/USB flash drive for captured image and video storage, support local preview and playback
- New browsing function, providing rich file operations
- Excellent ISP with local tone mapping and 3D denoising
- Provide two sets of default ISP parameters for biological and stereo microscope
- Embedded XCam View for the control of the camera control, image processing and measurements
- software for PC
- iOS/Android applications for smart phones or tablets



Sunflower Stem CS



Paramecium WM



Cucurbit Stem LS



Human Skin And Hair Follicle Slicing

Technical Specification

SLV-4K Series HDMI/NETWORK/USB Multi-outputs C-mount CMOS Camera

Camera Model	Video Saving (FPS/Resolution)	HDMI2.0 (FPS/Resolution)	USB3.0 (FPS/Resolution)	NETWORK (FPS/Resolution)
8MPA	72@3840*2160	60@3840*2160	30@3840*2160	30@3840*2160
	72@1920*1080	60@1920*1080	45@2688*1512	60@1920*1080
			60@1920*1080	72@1280*720
8MPB	75@3840*2160	60@3840*2160	30@3840*2160	30@3840*2160
	75@1920*1080	60@1920*1080	45@2688*1512	60@1920*1080
			60@1920*1080	75@1280*720
16MPA	30@3840*2160	30@3840*2160	20@5440*3060	30@3840*2160
	30@1920*1080	30@1920*1080	30@2688*1512	30@1920*1080
			30@1920*1080	30@1280*720

Software Environment under Network/USB Video Output

White Balance	Auto White Balance
Colour Technique	Ultra-Fine Colour Engine
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)

Recording System	Still Picture or Movie
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1 / 10 / 11(32 & 64 bit) OSx (Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher Memory: 4GB or more Ethernet Port: RJ45 Ethernet Port Display:19" or Larger CD-ROM

Operating Environment

Operating Temperature (in Centidegree)	-10°~ 50°
Storage Temperature (in Centidegree)	-20°~ 60°
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 12V/1A Adapter

SLV-4K Series HDMI/NETWORK/USB Multi-outputs C-mount CMOS Camera

Order Code	Sensor & Size(mm)	Pixel (μm)	G Sensitivity Dark Signal	Sensor Output (FPS/Resolution)	Binning	Exposure (ms)
8MPA	Sony IMX678(C) 1/1.8"(7.68x4.32)	2.0x2.0	1364mv with 1/30s 0.15mv with 1/30s	72@3840*2160	1x1	0.019~10 00
8MPB	Sony IMX585(C) 1/1.2"(11.14x6.26)	2.9x2.9	1028mv with 1/30s 0.13mv with 1/30s	75@3840*2160	1x1	0.048~10 00
16MPA	Sony IMX283(C) 1/1.1"(13.06x7.34)	2.4x2.4	1874mv with 1/30s 0.84mv with 1/30s	30@5440*3060	1x1	0.104~10 00

SLV-4K Series HDMI/NETWORK/USB Multi-outputs C-mount CMOS Camera

USB Mouse	Connect USB mouse for easy operation with embedded XCam View software
USB3.0	Connect USB flash drive to save pictures and videos (Flat shape only supports USB memory stick storage) Connect 5G Wi-Fi module to transfer video wirelessly in real time
USB Video	Connect PC or other host device to realize video image transmission
HDMI	Comply with HDMI2.0 standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors
LAN	LAN port to connect router and switch to transfer video
SD	SD card slot, comply with SDIO3.0 standard and SD card could be inserted for video and images saving
ON/OFF	Power switch
LED	LED status indicator
DC12V	Power adapter connection (12V/1A)

Video Output Interface	Function Description
HDMI Interface	Comply with HDMI2.0 standard;60fps@4K or 60fps@1080P(8MPA, 8MPB)30fps@4K or 30fps@1080P(A59.224416MPA)
LAN Interface	Support real time resolution switching(4K/1080P/720P) H264 encoded video DHCP configuration or manual configuration Unicast/multicast configuration
Wi-Fi Interface	Connecting 5G Wi-Fi adapter (USB3.0 slot) in AP/STA mode
USB Video Interface	Connecting USB Video port of PC for video transfer H264/MJPEG format video
Video Saving	Video format : 8M (3840*2160) H264/H265 encoded MP4 file Video saving frame rate:72fps(8MPA); 75fps(8MPB); 60fps in low delay mode (8MPA, 8MPB); 30fps(16MPA)
Image Capture	8M (3840*2160, 8MPA, 8MPB) JPEG/TIFF image in SD card or USB flash drive16M (5440*3060, 16MPA) JPEG/TIFF image in SD card or USB flash drive (Default SD card priority, priority can be modified in settings)
Measurement Saving	Measurement information saved in different layer with image content Measurement information is saved together with image content in burn in mode
ISP	Exposure (Automatic / Manual Exposure) / Gain , White Balance (Manual / Automatic / ROI Mode). Sharpening , 3D Denoise , Saturation Adjustment , Contrast Adjustment , Brightness Adjustment , Gamma Adjustment , Colour to Gray , 50HZ/60HZ Anti-flicker Function
Image Operation	Zoom In/Zoom Out (Up to 10X), Mirror/Flip, Freeze, Cross Line, Browser (including Picture Browsing, Video Playback, Video Compare, Picture Compare), Measurement Function
Embedded RTC(Optional)	To support accurate time on board
Restore Factory Settings	Restore camera parameters to its factory status
Language Support	English / Simplified Chinese / Traditional Chinese / Korean / Thailand / French / German / Spanish / Japanese / Italian / Russian / Dutch / Portuguese

Standard Packing List

A	Gift box: L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.7Kg/ box)
B	Camera (One of the two different shapes)
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A American standard: Model: POWER-U-12V1A(MSA-C1000IC12.0-12W-US): UL/CE/FCC European standard: Model: POWER-E-12V1A(MSA-C10001C12.0-12W-DE): UL/CE/FCC EMI standard: FCC Part 15 Subpart B EMS standard: EN61000-4-2,3,4,5,6
D	USB Mouse
E	HDMI Cable
F	USB3.0 A male to A male gold-plated connectors cable /2.0m

G CD (Driver & utilities software, Ø12cm)

Optional Accessory

H SD Card (16G or above; Speed: class 10)

I USB flash drive

J	Adjustable lens adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)	108001/AMA037 ; 108002/AMA050 ; 108003/AMA075
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K	Fixed lens adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)	108005/FMA037 ; 108006/FMA050 ; 108007/FMA075
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Note: For J and K optional items, please specify your camera type (C-mount, microscope camera or telescope camera), ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;

L 108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube

M 108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube

N	Calibration kit	106011/TS-M1(X=0.01mm/100Div.); 106012/TS-M2(X, Y=0.01mm/100Div.); 106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.)
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O USB WiFi adapter

P Ethernet cable

Camera Connect To Microscope



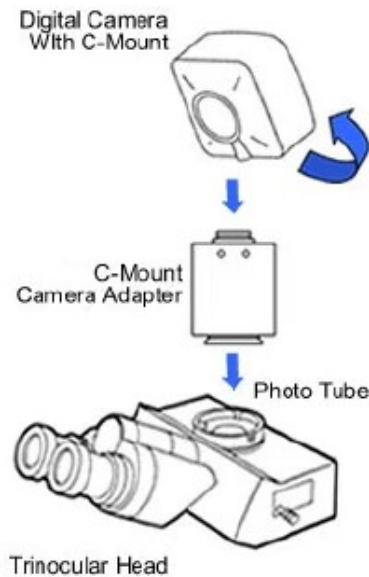
C-Mount to 23.2mm Adapter
For Microscope



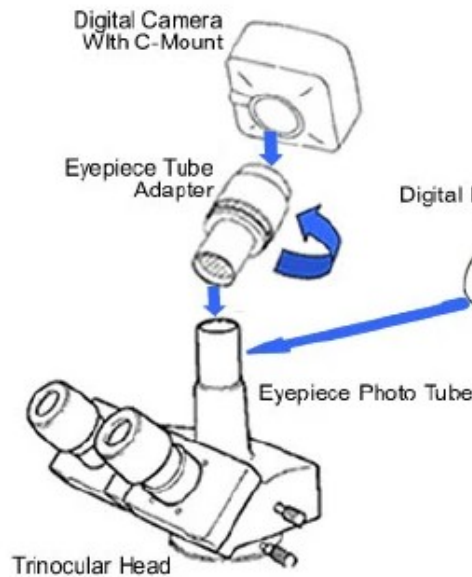
C-Mount to 31.75mm Adapter
For Telescope

How Camera Connect To Microscope

1. To Trinocular Microscope
On Straight Photo Tube



2. To Trinocular Microscope
On Eyepiece Photo Tube



3. To Binocular Microscope
On Eyepiece Tube

