

## HCO4K Digital Camera

The HCO4K series camera is the next-generation live-view imaging-system with 4K resolution(Video) at 60 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 color mosaic filters.

The camera 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 Gigabit Ethernet (GE) 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.

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



Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
HCO4K-8A	4K/Sony IMX334(C) 1/1.8"(7.68x4.32)	2.0x2.0	505 mv with 1/30s 0.13 mv with 1/30s	60@3840x2160(HDMI) 60@1920x1080(HDMI) 30@3840x2160(WIFI,GE)	1x1	0.1ms-1000ms
HCO4K-8B	4K/Sony IMX485(C) 1/1.2"(11.14x6.26)	2.9x2.9	2188 mv with 1/30s 0.39 mv with 1/30s	60@3840x2160(HDMI) 30@3840x2160(NETWORK) 30@3840x2160(USB)	1x1	0.1ms-2000ms
HCO4K-16A	4K/Sony IMX183(C) 1/1.06"(13.06x7.27)	2.4x2.4	461 mv with 1/30s 0.21 mv with 1/30s	30@3840x2160(HDMI) 30@1920x1080(HDMI) 30@3840x2160(WIFI,GE)	1x1	0.1ms-2000ms

### Interface & Button Functions

	USB Mouse	Connect USB mouse for easy operation of the embedded XCamView software
	USB3.0	Connect USB flash disk for image or video storage; Connecting 5G WLAN adapter as WLAN camera in AP or STA mode;
	HDMI	Comply with HDMI2.0 standard. 4K/1080P format video output and supporting auto switching between 4K and 1080P format according to the connected display resolution
	GE	Gigabit Ethernet port to connect to the peripheral for the video streaming
	SD	Comply with SDIO3.0 standard and SD card could be inserted for the images or videos storage
	DC12V	Power adapter connection (12V)
	ON/OFF	Power Switch
	LED	Camera status indicator

### Other Specification for HDMI Output

UI Operation	With USB Mouse
Image Capture	8M (3840*2160) JPEG Image in SD Card or USB Flash Disk
	16M (5440*3060) JPEG Image in SD Card or USB Flash Disk
Video Record	Video Format : 8M(3840*2160) H264 Encoded MP4 Format
	Video Recording Frame Rate : 50~60FPS(HCO4K-8), 26~30FPS(HCO4K-16)(related with the SD card speed class and video resolution)
Camera Control Panel	Including Exposure, Gain, White Balance, Color Adjustment, Sharpness and Denoising Control
Toolbar	Including Zoom, Mirror, Comparison(Video~image, image~image, Freeze, Cross, Browser Function)

### Other Specification for GE Output

White Balance	Auto/Manual/ROI White Balance
Color Technique	Ultra-Fine Color Engine (USB)
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 Video

### Software Environment (for USB2.0 Connection)

Operating System	Microsoft® Windows® XP /Vista /7/8/8.1/10(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/2A Adaptor

### Overall Dimensions

Width x Depth x Height	98.3 mm (3.87") x 65 mm (2.56") x 78mm (3.07")
Shipping Weight	0.47 kg (1.0lbs)