

BHC4-1080P Series C-mount HDMI+USB Output CMOS Camera



Introduction

BHC4-1080P series camera is a multiple interfaces (HDMI+USB2.0+SD card) CMOS camera and it adopts ultra-high performance Sony IMX385 or 415 CMOS sensor as the image-picking device. HDMI+USB2.0 are used as the data transfer interface to HDMI display or computer.

For HDMI output, The **XCamView** will be loaded and a camera control panel and toolbar are overlaid on the HDMI displayer, in this case, the USB mouse can be used to set the camera, browse and compare the captured image, play the video etc.

For USB2.0 output, unplug the mouse and plug in the USB2.0 cable to the camera and computer, then the video stream can be transfer to computer with the advanced software **ImageView**.

The included Windows software **ImageView** 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 **ImageView** which can capture video and still images, and includes limited processing features.

The **BHC4-1080P** series camera's basic characteristic is as follows:

- All in 1(HDMI+USB+SD card) C-mount camera with Sony high sensitivity CMOS sensor;
- Simultaneous HDMI & USB output;
- Built-in mouse control;
- Built-in image capture & video record to SD card;
- Built-in camera control panel, including exposure(manual/auto)/gain, white balance(lockable), color adjustment, sharpness and denoising control;
- Built-in toolbar including zoom, mirror, comparison, freeze, cross, browser functions;
- Built-in image & video browsing, display & play;
- Ultra-Fine color engine with perfect color reproduction capability(USB2.0);
- Support standard UVC for Windows/Linux/Mac(USB);
- With advanced video & image processing application **ImageView**, which including professional image

processing such as 2D measurement, HDR, image stitching, EDF(Extended Depth of Focus), image segmentation & count, image stacking, color composite and denoising(USB);

- With [Lite version software](#) to control the camera and capture video or still images, which includes limited processing features;
- CNC precision machining shell.

Application

The possible applications of [BHC4-1080P series camera](#) are as follows:

- Scientific research, education (teaching, demonstration and academic exchanges);
- Digital laboratory, medical research;
- Industrial visual (PCB examination, IC quality control);
- Medical treatment (pathological observation);
- Food (microbial colony observation and counting);
- Aerospace, military (high sophisticated weapons).

Specification

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
BHC4-1080P2MPA	Sony IMX385(C) 1/2"(7.2x4.05)	3.75x3.75	1175mv with 1/30s 0.15mv with 1/30s	60@1920*1080(HDMI) 50@1920*1080(USB)	1x1	0.04~1000
BHC4-1080P8MPB	Sony IMX415(C) 1/2.8"(5.57x3.13)	1.45x1.45	300mv with 1/30s 0.13mv with 1/30s	30@1920*1080(HDMI) 30@3840*2160(USB)	1x1	0.04~1000



Interface	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded XCamView software;
USB Video	Connect PC or other host device to realize video image transmission;
HDMI	Comply with HDMI1.4 standard. 1080P format video output for standard displayer;
DC12V	Power adapter connection (12V/1A);
SD	Comply with SDIO3.0 standard and SD card could be inserted for video and images storage;
LED	LED status indicator;

ON/OFF	Power switch;
Video Output Interface	Function Description
HDMI Interface	Comply with HDMI1.4 standard; 60fps@1080P;
USB Video Interface	Connecting USB port of PC for video transfer ; MJPEG format video;
Function Name	Function Description
Video Saving	Video format: 1920*1080 H264/H265 encoded MP4 file; Video saving frame rate: 60fps(BHC4-1080P2MPA); 30fps(BHC4-1080P8MPB)
Image Capture	2M (1920*2160, BHC4-1080P2MPA) JPEG/TIFF image in SD card ; 8M (3840*2160, BHC4-1080P8MPB) JPEG/TIFF image in SD card ;
Measurement Saving	Measurement information saved in layer mode with image content; Measurement information is saved together with image content in burn in mode.
ISP Function	Exposure(Automatic / Manual Exposure) / Gain, White Balance(Manual / Automatic / ROI Mode), Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Brightness Adjustment, Gamma Adjustment, Color to Gray, 50HZ/60HZ Anti-flicker Function
Image Operations	Zoom In/Zoom Out, Mirror/Flip, Freeze, Cross Line, Overlay, Embedded Files Browser, Video Playback, Measurement Function
Embedded RTC(Optional)	To support accurate time on board
Restore Factory Settings	Restore camera parameters to its factory status
Multiple Language Support	English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian
Software Environment under USB Video Output	
White Balance	Auto White Balance
Color Technique	Ultra-Fine Color 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(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
--------------	-------------------

Dimension



Dimension of BHC4-1080P Series Camera

Packing Information





Packing Information of BHC4-1080P Series Camera

Standard Packing List	
A	Gift box: L:25.5cm W:17.0cm H:9.0cm (1pcs,1.47kg/ box)
B	One BHC4-1080P series camera
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A

	<p>European standard: Model:GS12E12-P1I 12W/12V/1A; TUV(GS)/CB/CE/ROHS</p> <p>American standard: Model: GS12U12-P1I 12W/12V/1A: UL/CUL/BSMI/CB/FCC</p> <p>EMI Standard: EN55022, EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338</p> <p>EMS Standard: EN61000-4-2,3,4,5,6,8,11, EN61204-3, Class A Light Industry Standard</p>		
D	USB Mouse		
E	HDMI cable		
F	USB2.0 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	Adjustable lens adapter	C-Mount to Dia.23.2mm eyepiece tube	108001/AMA037
		(Please choose 1 of them for your microscope)	108002/AMA050
			108003/AMA075
J	Fixed lens adapter	C-Mount to Dia.23.2mm eyepiece tube	108005/FMA037
		(Please choose 1 of them for your microscope)	108006/FMA050
			108007/FMA075
<p>Note: For K and L optional items, please specify your camera type(C-mount, microscope camera or telescope camera), engineer will help you to determine the right microscope or telescope camera adapter for your application;</p>			
K	108015(Dia.23.2mm to 30.0mm ring)/Adapter rings for 30mm eyepiece tube		
L	108016(Dia.23.2mm to 30.5mm ring)/ Adapter rings for 30.5mm eyepiece tube		
M	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.)	

Extension of BHC4-1080P Series Camera

Extension	Picture	
<p>C-mount Camera</p>	 <p>Machine vision; Medical imaging; Semiconductor equipment; Test instruments; Document scanners; 2D barcode readers; Web camera and security video; Microscope imaging;</p>	
<p>Microscope Camera</p>	 <p>(23.2mm Adapter) (23.2mm Adapter)</p> <p>(31.7mm Adapter) (31.7mm Adapter)</p>	