



## BLC-280 LCD C-mount HDMI+USB Output CMOS Camera





BLC-280 = BHC4-1080P8MPB HDMI Camera + HD1080P133A LCD Monitor

#### Introduction

BLC-280 LCD digital camera is a combination of BHC4-1080P8MPB HDMI digital camera and HD1080P133A 13.3" high-definition IPS LCD display. The multiple interfaces (HDMI+USB2.0+SD card) CMOS camera has adopted ultra-high performance Sony IMX415 CMOS sensor as the image-picking device. HDMI+USB2.0 are used as the data transfer interface to HDMI display or computer.

HD1080P133A HD LCD screen has adopted IPS LCD panel (Super TFT) to guarantee the wide view angle and high contrast. Together with the HDMI camera, HD1080P133A could make the imaging & display solution simple, flexible and intuitive. Outstanding performance of HD1080P133A helps the HDMI camera reach fast frame rate and excellent color.

For HDMI output, The XCamView will be loaded and a camera control panel and toolbar are overlaid on the





HDMI LCD dsiplayer. In this case, the USB mouse can be used to set the camera, browse and compare the captured image, play the video and make measurements.

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 which can capture video and still images, and includes limited processing features.

#### Features

The BLC-280 LCD digital camera's basic characteristics are as follows:

- 1. All in 1( HDMI+USB+SD card) C-mount camera with Sony high sensitivity CMOS sensor;
- 2. Simultaneous HDMI & USB output;
- 3. Built-in mouse control;
- 4. Built-in image capture & video record to SD card;
- 5. Built-in camera control panel, including exposure(manual/auto)/gain, white balance(lockable), color adjustment, sharpness and denoising control;
- 6. Built-in toolbar including zoom, mirror, comparison, freeze, cross, browser functions;
- 7. Built-in image & video browsing, display & play;
- 8. Ultra-Fine color engine with perfect color reproduction capability (USB2.0);
- 9. Support standard UVC for Windows/Linux/Mac (USB);
- 10. 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);
- 11. CNC precision machining shell;
- 12. True 1080P HDMI displayer;
- 13. 13.3 inch active area;
- 14. IPS LCD panel, 178 degree wide viewing angle;
- 15. HDR dynamic image enhancement;
- 16. 72% SRGB primary gamut;
- 17. 400cd/m2 display brightness, high contrast ratio up to 1000:1;

18. 4mm narrow frame design on three sides, with 90% of the screen area, great visual experience;

19. No delay is felt with 3ms response, and dynamic definition is optimized to keep the picture stable and clear without residual shadow;





20. Integrated invisible folding support, easy viewing angle adjustment.

#### Application

The possible applications of BLC-280 LCD digital camera are as follows:

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

#### **BLC-280 LCD Digital camera Datasheet**

#### 1. Camera Specification (BHC4-1080P8MPB)

Order Code	Sensor & Size(mm)	Pixel(µm)	G Sensitivity Dark Signal	FPS/Resolution	Binnin g	Exposure
BLC-280	Sony IMX415(C)	1.45x1.45	300mv with 1/30s	30@1920*1080(HDMI)	1x1	0.04~1000
	1/2.8"(5.57x3.13)		0.13mv with 1/30s	30@3840*2160(USB)		



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; 30fp;@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 format video;       Image Capture     BMP (3840*2160) JPEG/TIFF image in SD card;       Measurement Saving     Measurement information is saved in layer mode with image content;       Measurement information is saved in layer mode with image content;     Measurement information is saved in layer mode with image content;       Measurement information is saved in layer mode with image content;     Measurement information is saved in layer mode with image content;       Image Operations     Zoom Inf.Zoom Out, Mirror/Filp, Freeze, Cross Line, Overlay, Embedded Files Browser, Video Playback, Measurement Function       Embedded     To support accurate time on board       Rectore     Factory       Support     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Support       White Balance     Auto White Balance       Color Technique     Ultra -fine Color Engine       Quertaring System     Still Picture or Movie       PG Requirements     Still Victu 7 / 8 / 8.1 / 10(32 & 64 bit)       Operating System     Sti						
Function Name     Function Description       Video Saving     Video format: 1920*1080, H264/H265 encoded MP4 File; Video saving frame rate: 30fps (BLC-280)       Image Capture     BMP (3840*2160) 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; Measurement information Adjustment, Color to Gray, 50H2/60H2 AntHilteker Function       ISP Function     Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Gamma Adjustment, Color to Gray, 50H2/60H2 AntHilteker Function       Image Operations     Zoom In/Zoom Out, Mirror/Filp, Freeze, Cross Line, Overlay, Embedded Files Browser, Video Playback, Messurement Function       Embedded RTC(Optional)     To support accurate time on board       Restore     Factory Playback, Messurement Function       Support     To support accurate time on board       Villela Language     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian       Support     Vildow/Linux/macOS/Android Multiple Platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)       Recording System     Still Picture or Movie       Microsoft* Windows*XP / Vista / 7 / 8 / 8.1/10(32 & 64 bit)       Operating Function     Oss(Mac OS X)       Linux     Linux	HDMI Interface	Comply with HDMI1.4 standard; 30fps@1080P;				
Video Saving     Video format: 1920*1080, H264/H265 encoded MP4 file; Video saving frame rate: 30fps (BLC-280)       Image Capture     8MP (384°±100) PE6/TIFF image in SD card;       Measurement Saving     Measurement information is aved in layer mode 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, S0H2/60H2 Anth-filcker Function       Embedded     To support accurate time on board       Restore     Factory       Restore camera parameters to its factory status       Multiple Language     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian       Video Torhnique     Ultra-Fine Color Engine       Color Technique     Ultra-Fine Color Engine       Querations System     Still Picture or Movie       Microsoft* Windows* XP / Vista / 7 / 8 / 8.1 /10(32 & 64 bit)     Oss(Mac OS X) Linux       PC Requirements     CO-ROM       Operating Temperature (In Centidegree)     -20°- 60°       Operating Temperature (In Centidegree)     -20°- 60°       Operating Temperature (In Centidegree)     -20°- 60°	USB Video Interface	Connecting USB port of PC for video transfer; MJPEG format video;				
Video Saving     Video saving frame rate: 30fps (BLC-280)       Image Capture     8MP (3840*2160) JPEG/TIFF image in SD card;       Measurement Saving     Measurement information is saved together with image content; Measurement information is saved together with image content; Manual / Automatic / ROI Mode),       ISP Function     Sharpening, 3D Denoise, Saturation Adjustment, Contrast Adjustment, Brightness Adjustment,       Image Operations     Zoom In/Zoom Out, Mirror/File, Freeze, Cross Line, Overlay, Embedded Files Browser, Video Playback, Measurement Function       Embedded     To support accurate time on board       Restore     Factory Settings       Berbedded     To support accurate time on board       Multiple Language     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian       Multiple Language     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Video Traditional Chinese / Korean / Thai / French / German / Japanese / Video Traditional Chinese / Korean / Thai / French / German / Japanese / Video Traditional Chinese / Korean / Thai / French / German / Japanese / Video Subport       White Balance     Auto White Balance     Auto White Balance       Color Technique     Ultra-Fine Color Engine     Windows/Linux/macOS/Android Multiple Platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Wain, etc)       Recording System	Function Name	Function Description				
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Measurement Saving     Measurement information saved in layer mode with image content; Measurement information is saved together with image content; Gamma Adjustment, Color to Gray, SDHZ/GHZ Anti-flicker Function       Image Operations     Coom 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 Restore camera parameters to its factory status       Settings     English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian       Multiple Language     Logith / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Utra-Fline Color Engline       Color Technique     Utra-Fline Color Engline       Color Technique     Windows/Linux/macOS/Android Multiple Platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)       Recording System     Still Picture or Movie       Querating System     Still Picture or Movie       CPU: Equal to Intel Core2 2.8GHz or Higher       Memory: 4GB or More       Ethernet Port: R45 Ethernet Port	video saving	Video saving frame rate: 30fps (BLC-280)				
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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 Temperature (in Centidegree)     Storage Temperature (in Centidegree)     Operating Humidity     30~80%RH     Storage Humidity		Microsoft <sup>®</sup> Windows <sup>®</sup> XP / Vista / 7 / 8 / 8.1 /10(32 & 64 bit)				
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 Temperature (in Centidegree)     Storage Temperature (in Centidegree)     Operating Humidity     30~80%RH     Storage Humidity	Operating System	OSx(Mac OS X)				
PC Requirements   Memory: 4GB or More     Ethernet Port: RJ45 Ethernet Port     Display:19" or Larger     CD-ROM     Operating Environment     Operating Temperature (in Centidegree)     Storage Temperature (in Centidegree)     Operating Humidity     30~80%RH     Storage Humidity     10~60%RH		Linux				
PC Requirements Ethernet Port: RJ45 Ethernet Port Display:19" or Larger CD-ROM CD-ROM CDerating Temperature (in Centidegree) -10°~ 50° (in Centidegree) -20°~ 60° (in Centidegree) -20°~ 60° (in Centidegree) 10° 60% RH		CPU: Equal to Intel Core2 2.8GHz or Higher				
Display:19" or Larger   Doperating Temperature (in Centidegree)   Storage Temperature (in Centidegree)   Operating Humidity   30~80%RH   Storage Humidity		Memory: 4GB or More				
CD-ROM     Operating Temperature (in Centidegree)   -10°~ 50°     Storage Temperature (in Centidegree)   -20°~ 60°     Operating Humidity   30~80%RH     Storage Humidity   10°60%RH	PC Requirements	Ethernet Port: RJ45 Ethernet Port				
Operating Temperature (in Centidegree)   -10°~ 50°     Storage Temperature (in Centidegree)   -20°~ 60°     Operating Humidity   30~80%RH     Storage Humidity   10°60%RH		Display:19" or Larger				
Operating Temperature (in Centidegree) -10°~ 50°   Storage Temperature (in Centidegree) -20°~ 60°   Operating Humidity 30~80%RH   Storage Humidity 10°60%RH		CD-ROM				
(in Centidegree) -10°~ 50°   Storage Temperature (in Centidegree) -20°~ 60°   Operating Humidity 30~80%RH   Storage Humidity 10~60%RH		Operating Environment				
(in Centidegree) -20°~ 60°   Storage Temperature (in Centidegree) -20°~ 60°   Operating Humidity 30~80%RH   Storage Humidity 10~60%RH	Operating Temperature	10°~ 50°				
(in Centidegree) -20°~ 60°   Operating Humidity 30~80%RH   Storage Humidity 10~60%RH	(in Centidegree)					
(in Centidegree) Operating Humidity   Storage Humidity 30~80%RH	Storage Temperature	20°~ 60°				
Storage Humidity 10~60%RH	(in Centidegree)	-20 00				
	Operating Humidity	30~80%RH				
Power Supply DC 12V/1A Adapter	Storage Humidity	10~60%RH				
	Power Supply	DC 12V/1A Adapter				





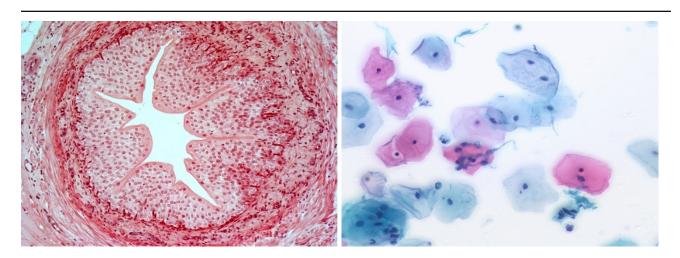
### 2. LCD Screen Specification (HD1080P133A)

Order Code	Active Area(Inch)	Video Fomat	Resolution	Contrast	Color Gamut	View Angle		
HD1080P133A	13.3	HDMI	1080P	1000:1	72%	IPS Full View(178°)		
		Н	D1080P133A Data	sheet				
			Basic Performan	æ				
LCD Panel		IPS LCD Screen (Super TFT)						
Input Video Forn	nat	НДМІ						
Native Resolutio	n	1920 x 1080						
Display Type		16:9 Ratio 13.3 Inch Active Matrix Super TFT LCD						
Typical Contrast	Ratio	1000:1						
Colors		16.7 Million	16.7 Million					
Viewing Angle(L/	/R/U/D)	IPS Full View	IPS Full View (178°)					
Active Display Area		295mm(W) × 165mm(H)						
Pixel Pitch		0.154(W) X 0.154(H) mm						
Refresh Rate		60Hz						
Brightness		400cd/m <sup>2</sup>						
Backlight		LED Backlight, 50000 hours						
Outline Parameter								
Color		Black						
Dimension		306(L)*183(H)*8(T) mm						
Weight		450g						
	Operating Environment							
Operating Tempe	erature	-15 Degree~55 Degree						
Humidity Non Co	ondensing	Operating:10%-90%, Storage: 5%-90%						
Synchronization	Range	30-80 KHz Horizontal, 55-75 Hz Vertical						
Power Supply		AC110V-220V /DC5~12V(1A ) (Type C)						
Power Consump	tion	Max 12W						

# Sample Images







### **Dimension of BLC-280 LCD Digital Camera**







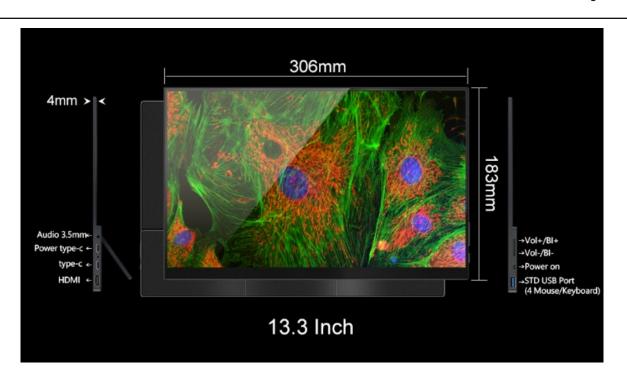
Dimension of BHC4-1080P8MPB Camera

78

Integrated Folding Support of HD1080P133A Displayer







Dimension, Interface and Control Button of HD1080P133A Displayer