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	Binning	Exposure
BLC-280	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; 30fps@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: 30fps (**BLC-280**)
Image Capture	8MP (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 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

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°)

HD1080P133A Datasheet

| Basic Performance	
LCD Panel	IPS LCD Screen (Super TFT)
Input Video Format	HDMI
Native Resolution	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
Viewing Angle(L/R/U/D)	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^2
Backlight	LED Backlight, 50000 hours
Outline Parameter	
Color	Black
Dimension	306(L)*183(H)*8(T) mm
Weight	450g
Operating Environment	
Operating Temperature	-15 Degree~55 Degree
Humidity Non Condensing	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 Consumption	Max 12W

Sample Images
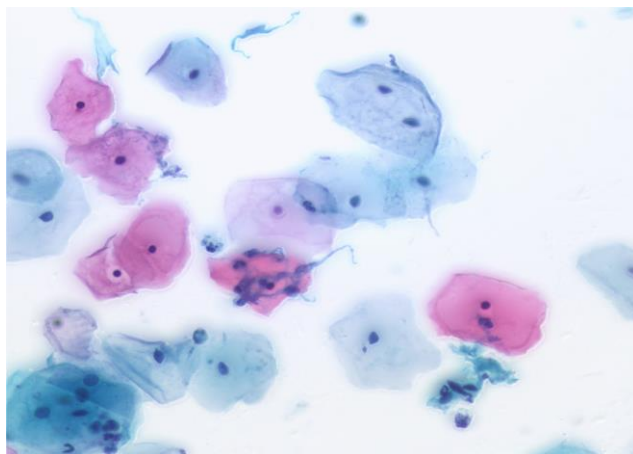
Dimension of BLC-280 LCD Digital Camera
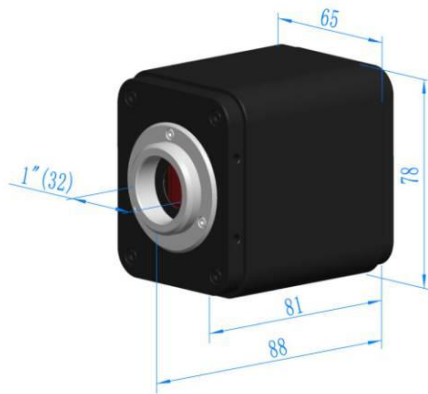
Dimension of BHC4-1080P8MPB Camera
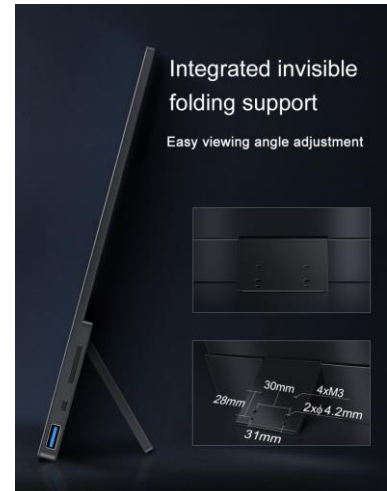
Integrated Folding Support of HD1080P133A Displayer
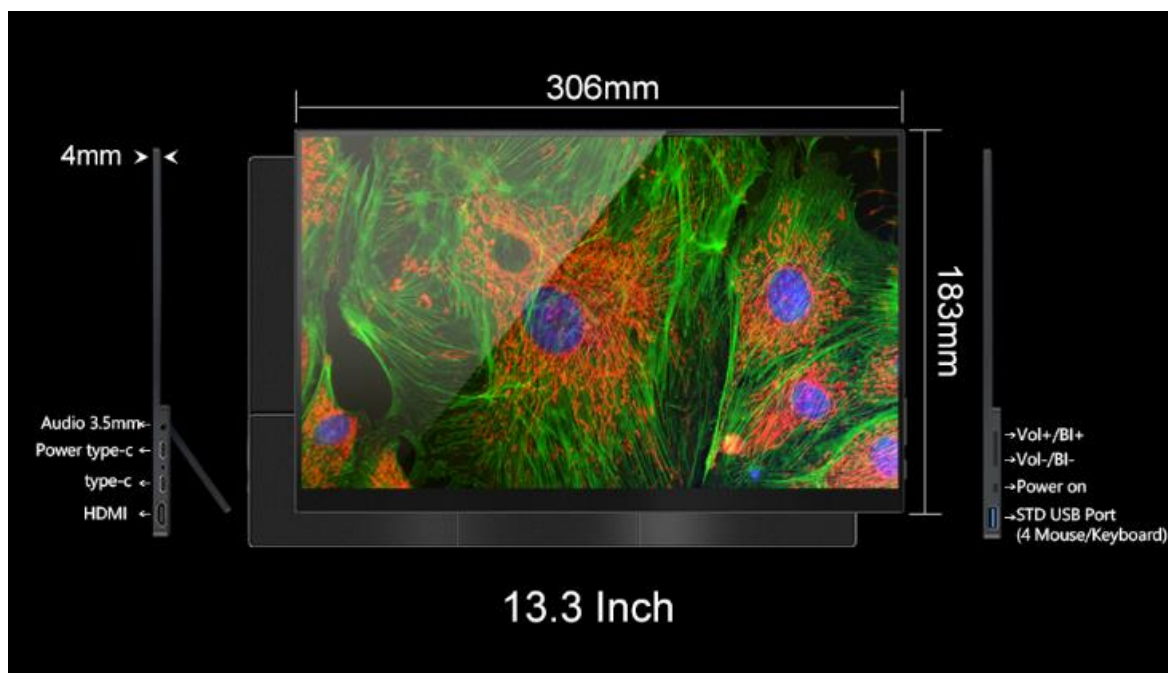
Dimension, Interface and Control Button of HD1080P133A Displayer