

(2) BUC3E USB 3.0 Digital Camera



BUC3E-600C, 800AC/BC, 1200C



BUC3E-2000C, 500C



BUC3E-800CC

Introduction

BUC3E Series USB 3.0 Digital Camera are CMOS cameras with C-mount interface and Sony Exmor CMOS sensor, provide high resolution images and videos.

Feature

1. CMOS camera with C-mount interface and Sony Exmor CMOS sensor.

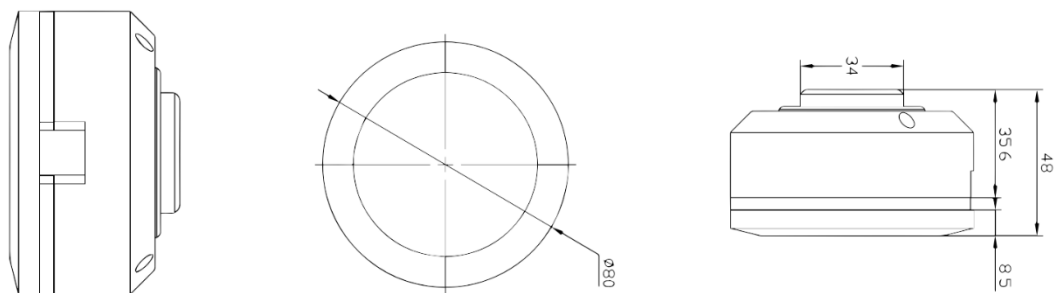
2. Hardware resolutions range from 5 mega-pixels to 20 mega-pixels.
3. USB 3.0 interface ensures high transfer rate.
4. Professional image processing ISP with excellent image effects, industry-leading performance in wide dynamic range, noise reduction and digital amplification.
5. Provide SLView, an advanced video and image processing application software, with the cameras.
6. Provide standard SDK of Windows/Linux/macOS.

Specification

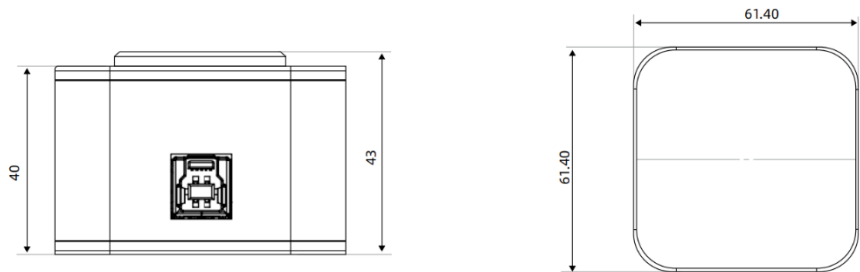
Order Code	Focusing	Sensor Size	Pixel (μm)	Shutter	Resolution	Frame Rate
BUC3E-500C	Fixed focus	2/3"	3.45	Global	2432*2048	MJPEG: 2432*2048@35fps NV12: 2432*2048@30fps 1216*1024@70fps
BUC3E-600C	Fixed focus	1/1.8"	2.4	Rolling	3072*2048	MJPEG: 3072*2048@30fps 2560*1944@50fps 1280*972@60fps 1920*1080@60fps NV12: 3072*2048@24fps 2560*1944@30fps 1536*1024@30fps 1280*972@60fps 1920*1080@60fps
BUC3E-800AC	Fixed focus	1/1.8"	2.0	Rolling	3840*2160	MJPEG: 3840*2160@30fps NV12: 3840*2160@17fps 1920*1080@60fps
BUC3E-800BC	Fixed focus	1/1.2"	2.9	Rolling	3840*2160	MJPEG: 3840*2160@30fps NV12: 3840*2160@17fps 1920*1080@60fps
BUC3E-800CC	Fixed focus	1/3"	1.45	Rolling	3840*2160	HDMI: 3840*2160@30fps 3072*1728@40fps 1920*1080@60fps NV12: 3840*2160@6.5fps 3072*1728@10fps 1920*1080@30fps
BUC3E-1200C	Fixed focus	1/1.7"	1.85	Rolling	4000*3000	MJPEG: 4000*3000@30fps NV12: 4000*3000@13fps 2048*1080@60fps
BUC3E-2000C	Fixed focus	1"	2.4	Rolling	5440*3648	MJPEG: 5440*3648@20fps NV12: 5440*3648@8fps 2720*1824@30fps 1824*1216@60fps

Order Code	Sensor Type	Interface	Output Interface	Storage
BUC3E-500C	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-600C	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-800AC	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-800BC	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-800CC	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-1200C	CMOS	C-mount	TYPE-B 3.0 USB	PC
BUC3E-2000C	CMOS	C-mount	TYPE-B 3.0 USB	PC

Dimension



BUC3E-600C, 800AC/BC, 1200C, 2000C, 500C



BUC3E-800CC

Unit: mm

(3) BUC3M42 Series M42 Mount USB3.0 CMOS Camera



BUC3M42's different views



BUC3M42+F-mount

BUC3M42 + F-mount+Lens



BUC3M42 with F-mount+Lens

BUC3M42 with F-mount and Lens

BUC3M42 series cameras use Sony Exmor, Exmor R, Exmor RS back-illuminated CMOS sensors or GSENSE large-size sensors. The cameras comes with M42 mount, we also supply M42 mount to C-mount and M42 mount to F-mount adapters. Exmor series CMOS sensors use double-layer noise reduction technology, with ultra-high sensitivity

and ultra-low noise, GSENSE series sensors have big pixel size. The sensors have adopted advanced back-illuminated processing technology, the peak quantum efficiency is as high as 94%; through correlated multi-sampling technology (CMS), the chip readout noise is less than $1.2e^{-}$, and the dynamic range is as high as 90dB, which is ideal choice for biological imaging and scientific applications. At the same time, GSENSE2020BSI supports global reset rolling shutter exposure with high frame rate, which provides a new solution for high-performance UV industrial inspection, corona inspection and other applications.

The BUC3M42 series cameras have integrated a 12-bit ultra-fine hardware image signal processor video streaming engine (Ultra-Fine™ HISPVP), through which can realize hardware demosaic adjustment, automatic exposure, gain adjustment, one-click white balance, image color adjustment, saturation adjustment, gamma correction, brightness adjustment, contrast adjustment, Bayer format image conversion to RAW data and finally output in 8/12bit. HISPVP transfers the traditional work that should be processed by the computer CPU to the camera hardware processing, it has greatly improved the transfer speed of the camera and reduces the CPU usage.

Using USB3.0 data transmission technology to achieve high-speed data transmission, video transmission is fast and stable.

The resolution of BUC3M42 series cameras spans from 4.2MP to 10MP.

BUC3M42 series cameras provide professional video and image processing application software ImageView; provide Windows/Linux/OSX multi-platform SDK; support native C/C++, C#/VB.Net, Directshow, Twain API.

The BUC3M42 series cameras can be used to capture general bright, dark field, low light or fluorescence microscopy images.

Features

The basic features of BUC3M42 are as following:

1. Adopted SONY Exmor or GSENSE Back-illuminated large scientific CMOS sensor, with M42x0.75 mount, USB3.0 CMOS digital camera;
2. Wide spectrum range, some models even have high response in the ultra-violet to infrared wavelength;
3. Real-time 8/12bit depth switch(depending on sensor), allow any ROI size;
4. Ultra-fine™ HISP VP and USB3.0 5 Gbps interface ensuring high frame rates(Up to 30 frames for 10MP resolution);
5. Ultra low noise and low power consumption by using column-parallel A/D conversion;
6. With hardware resolution from 4.2M to 10.3M;
7. Standard M42 mount and M42 to C-mount or F-mount;
8. CNC aluminum alloy housing;
9. With advanced video & image processing application ImageView;
10. Providing Windows/Linux/Mac OS multiple platforms SDK;

11. Native C/C++, C#/VB.Net, DirectShow, Twain.

BUC3M42 Datasheet

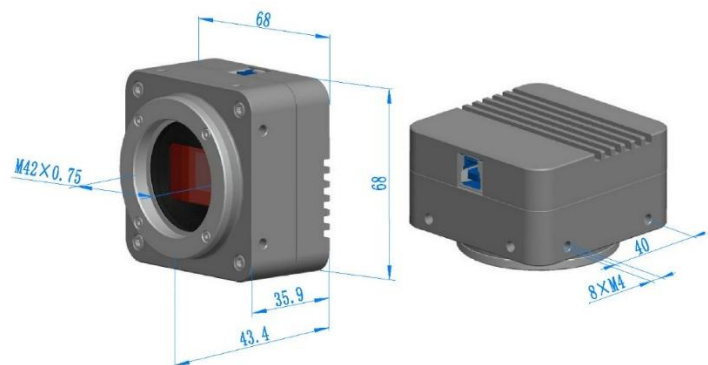
Order Code	Sensor & Size(mm)	Pixel Size(μm)	G Sensitivity/ Dark Signal	FPS/Resolution	Binning	Exposure
BUC3M42-1000C	10.3M/IMX294(C) 4/3" (17.47x12.86)	4.63 x 4.63	419mv with 1/30s 0.12mv with 1/30s	30@3704x2778 34.5@4096x2160 39.5@2760x2072 62@2048x1080 86@1360x720 8 Bit/ 12 Bit	1x1 1x1 1x1 2x2 3x3	0.1ms~15s

C: Color; M: Monochrome; RS: Rolling Shutter; GS: Global Shutter; UV: Good UV response

Other Specification for BUC3M42 Camera	
Spectral Range	200-1100nm (UV without IR-cut Filter) or 400-900nm
White Balance	ROI White Balance/ Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra-fine™ HISPVP /NA for Monochromatic Sensor
Capture/Control API	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc.)
Recording System	Still Picture and Movie
Cooling System*	Natural
Operating Environment	
Operating Temperature (in Centigrade)	-10~ 50
Storage Temperature (in Centigrade)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port
Software Environment	
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 /10 /11 (32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 2GB or More
	USB Port: USB3.0 High-speed Port
	Display: 17" or Larger
	CD-ROM

Dimension of BUC3M42

The BUC3M42 body, made from tough, CNC aluminum alloy, ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT or AR glass to protect the camera sensor. No moving parts included. This design ensures a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.



Dimension of BUC3M42 with M42x0.75 or F-mount Interface

Packing Information for BUC3M42



Packing Information of BUC3M42 Series camera

Standard Camera Packing List	
A	Carton L:52cm W:32cm H:33cm (20pcs, 12~17Kg/ carton), not shown in the photo
B	Gift box L:15cm W:15cm H:10cm (0.58~0.6Kg/ box)
C	BUC3M42 series USB3.0 M42-mount CMOS camera
D	High-speed USB3.0 A male to B male gold-plated connectors cable /2.0m
E	CD (Driver & utilities software, Ø12cm), has been upgraded to USB flash drive