BUC5IA Series Cooled C-mount USB3.0 CMOS Camera

BUC5IA series cameras have adopted SONY IMX183 CMOS sensor(20.0MP resolution) and USB3.0 interface to increase the frame rate.

With the two-stage peltier cooling sensor chip to -40 degree below ambient temperature. This will greatly increase the signal to noise ratio and decrease the image noise. Smart structure is designed to assure the heat radiation efficiency and avoid the moisture problem. Electric fan is used to increase the heat radiation speed.

The BUC5IA series cameras can be widely used in low light environment and microscope fluorescence image capture and analysis.

Feature

1. 20 megapixels, capturing high-definition detailed images in one shot.

The BUC5IA-2000C/M's 1-inch sensor image can cover the most uniform central area of the image plane, with a resolution of up to 20 megapixels, you can capture the high-definition details of your samples in one shot.
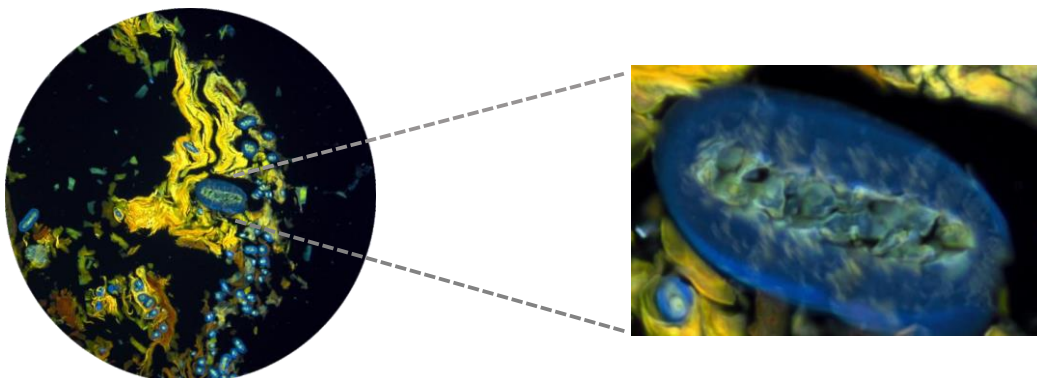

2. **Thermoelectric cooling noise reduction technology to meet more professional fluorescence imaging needs.**

With the top-level cooled camera technology, the BUC5IA-2000C/M cooled camera operates at -15 °C and can ensure long-term reliable operation, significantly reducing the hot pixels caused by the accumulation of dark current, and obtaining a purer fluorescent background image. More than twice the sensitivity of a CCD, to meet the needs of professional fluorescence imaging.

3. Real-time intelligent image processing, focused on improving image quality.

Without sacrificing speed and image information, the BUC5IA-2000C/M offers a variety of real-time intelligent image processing capabilities that allow you to view and capture flawless sample images in real time with the click of a button.
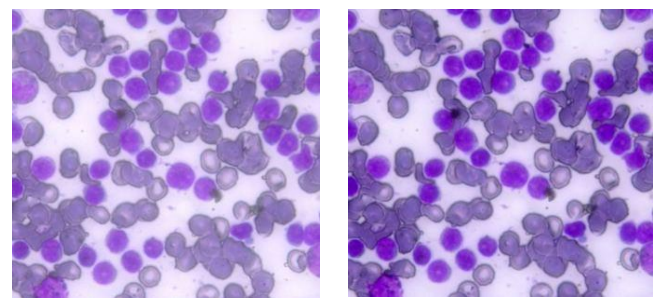
○ Real-time 3D noise reduction, effectively eliminating random background noise
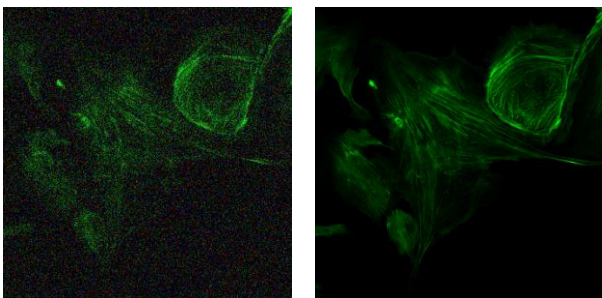
○ Real-time sharpening, enhanced detail, and more transparent

Before   After


Before   After

4. >50fps high speed video at 5.0MP resolution.

With a guaranteed field of view, the FL 20 offers a variety of high-speed imaging modes that can be adjusted for fast focus and positioning for an efficient image capture experience.

Resolution	BUC5IA-2000C/M	CCD
20MP	15fps	<1fps
5MP	53fps	4fps

5. Revolutionary PC Computing Imaging Software Capture V2.0

Unique from the cumbersome process of traditional technology to obtain images after processing, the Capture V2.0 provides real-time image stitching and real-time depth of field fusion. This can automatically complete the image while the operator moves the stage -productivity at its best.
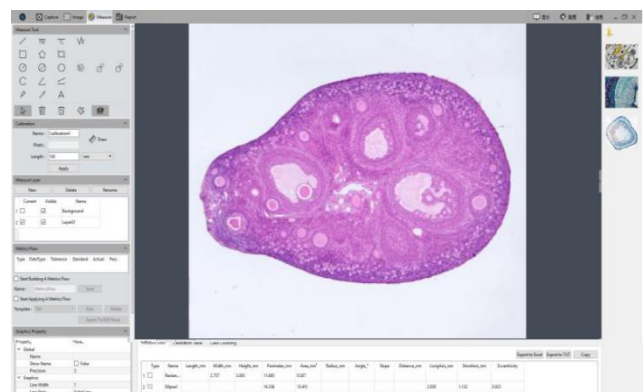
6. Advanced Cooling Technology Reduces Dark Current Down to 0.001e-/pixel/s.

BUC5IA-2000C/M can achieve a dark current noise control level as low as 0.001e/sec, which significantly reduces the hot pixel noise during long exposure time.

Specification

Product Model	BUC5IA-2000C	BUC5IA-2000M
Color/Mono	Color	Mono
Sensor Model	Sony	Sony
Quantum Efficiency	84%@535nm	84%@495nm
Resolution	5472(H) x 3648(V)	5472(H) x 3648(V)
Pixel Size	2.40μm x 2.40μm	2.40μm x 2.40μm
Sensor Size	15.86mm; 1inch	15.86mm; 1inch
Shutter Mode	Rolling	Rolling
Read Noise	<1e-	<0.8e-
Dark current	0.001e-/pixel/s	0.001e-/pixel/s
Cooling	Forced air(Ambient at +25℃):-15 ℃	Forced air(Ambient at +25℃):-15 ℃
Frame Rate	14fps@5472x3648, 53fps@2736x1824 67fps@1824x1216	16fps@5472x3648(8bit), 8fps@5472x3648(16bit), 53fps@2736x1824(8bit), 22fps@2736x1824(16bit)
Binning	2x2, 4x4	2x2, 3x3, 4x4, 8x8
Exposure Settings	Auto/Manual	Auto/Manual
Exposure Time	0.244ms - 2mins	0.244ms - 60mins
Picture Format	JPG/PNG/TIFF/DICOM	JPG/PNG/TIFF/DICOM
Data Interface	USB3.0	USB3.0
Bit Depth	16bit/8bit	16bit/8bit
Camera Size	85mm x 85mm x 100mm	85mm x 85mm x 100mm
Power Supply	12V/8A	12V/8A
Camera Weight	1200g	1200g
PC Software	Captrue V2.0	Captrue V2.0
Operating System	Windows(32bit/64bit)	Windows(32bit/64bit)
Operating Environment	Operating: 0-40℃　Humidity: 10%-85%	Operating: 0-40℃　Humidity: 10%-85%

CaptureV2.0 Feature Function

BUC5IA-2000C/M supports our standard, it supports Microsoft Directshow, Twain video interface and supports Capture 2.0 software.

Capture 2.0 software is a large imaging software developed by us to support our new cameras. It has three modules: camera control, image processing and measurement. Its core features include compatibility with Microsoft Windows and Apple Mac OS dual-systems with advanced "real-time stitching" and "real-time EDF" algorithms and so on.

* Real-time Image Stitching\ EDF \ 3D Noise Reduction;

* Real-time fluorescence image synthesis and editing;

* HDR image synthesis;

* Micro-imaging-based intelligent automatic exposure;

* Intelligent flat field correction based on dynamic calculation Smart measurement workflow;

* Supports single shot, delayed camera;

* User parameter group save and load Dynamic\static measurement;

* Customize measuring gauges, layers, precision;

* Customize image naming, style, save location;

* Implements drawing: points, lines, rectangles, polygons, circles, arcs, angles, Data export as TXT or Excel, report generation and printing.

Sample Images