

# INFINITY 2-5

5.0 Megapixel CCD USB 2.0 Camera

High resolution CCD color or monochrome microscopy camera for qualitative image archiving



## INFINITY 2-5

Lumenera's INFINITY 2-5 digital CCD USB 2.0 camera offers excellent sensitivity, high resolution and a global electronic shutter. This is an ideal camera for brightfield, darkfield, and DIC imaging applications where higher resolution archiving and a wide dynamic range are routinely required. With 2448 X 2048 resolution and on-board processing, the INFINITY 2-5 delivers outstanding image quality for a wide variety of scientific applications.

### Superior Sensitivity and Color Reproduction

Years of experience in the microscopy market have allowed Lumenera to develop specialized color algorithms ensuring excellent color reproduction. Additionally, INFINITY software allows the adjustment of all live preview color facets, enabling users to apply their own personal preferences to each image. For lower light applications the Sony CCD sensor has a high dynamic range, resulting in excellent camera sensitivity.

### Full Image Analysis Software Included

INFINITY CAPTURE, an intuitive image capture program, and INFINITY ANALYZE, a full image analysis package offering; camera control, measurement, annotations, tiling and post capture enhancement, are both included. Camera and software combined to create a complete microscopy imaging solution for your application.

### USB 2.0 Plug-and-Play Interface

Once the software had been installed, running one or more cameras on a single computer is as simple as plugging them into a high-speed USB 2.0 port.

### Third-Party Software Integration

INFINITY cameras are integrated into a variety of third-party software packages through direct drivers or with TWAIN/DirectX support.

### Mac Camera Software

A Mac camera driver and ImageJ plug-in are available for the INFINITY 2-5. Please refer to the Lumenera webpage [www.lumenera.com](http://www.lumenera.com) for up-to-date details.

### Superior Technical Assistance Center (TAC)

As a Lumenera customer you gain access to the TAC group and knowledge base, which provide full support for cameras, software and microscopy applications.

## Features

- 2/3" format progressive scan 5.0 megapixel CCD sensor
- Full color sub-windowing allows for rapid focus and scanning of samples; 9 fps at full 2448 x 2048 resolution, 23 fps at 640 x 480 (with ROI)
- 8 or 14-bit pixel data modes
- Software compatible with Windows 2K, Windows XP, Windows Vista, Windows 7, Mac OSX, 32 and 64-bit
- Includes TWAIN and DirectX/Direct Show support
- Optional GPI/O for control of peripherals and synchronization

## Recommended Applications

- Brightfield
- Darkfield
- Live Cell Imaging
- Histology
- Pathology
- Cytology
- Defect Analysis
- Semiconductor Inspection
- Metrology
- Gel Documentation
- Quantitative Analysis

## Warranty

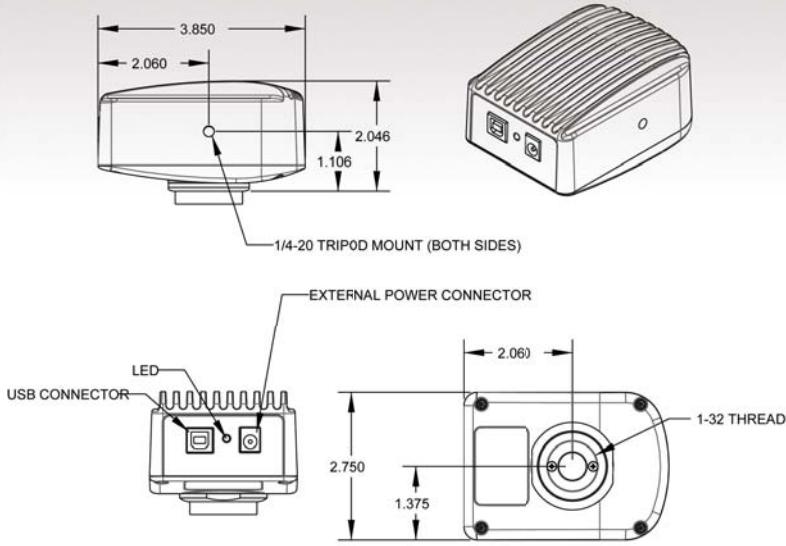
- One (1) year parts and labor

## Microscope Coupler

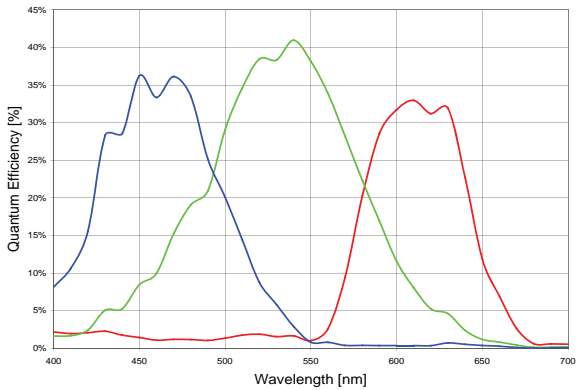
- Requires 1.0 x C-mount coupler



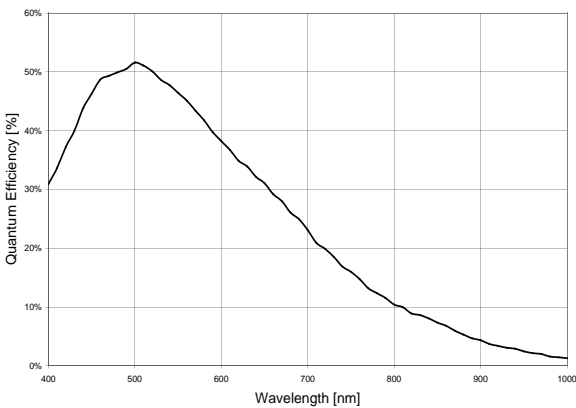
Mechanical Drawings



Color Quantum Efficiency



Monochrome Quantum Efficiency



Sensor Specifications	
Image Sensor	Sony Super HAD ICX655, CCD, color or mono, progressive scan
Optical Format	2/3"
Active Area	8.7 x 7.10 mm
Pixel Size	3.45 x 3.45 $\mu$ m
Resolution	2448 x 2048 pixels
Region of Interest Control	Any multiple of 8 x 8 pixels, 16 x 16 pixels minimum
Camera Specifications	
Frame Rate	9 fps (burst), 8.5 fps (sustained) at full resolution, 23 fps at 640 x 480 (with ROI)
Bit Depth	8 or 14-bit
Binning Modes	2 x 2, 4 x 4
Exposure Control	Manual and automatic control
Exposure Range	161 $\mu$ s to 500 ms (video), 161 $\mu$ s - 71 min (snapshot)
Gain Control	Manual and automatic control
Gain Range	1 to 25.6 x
White Balance	Manual and automatic control
Camera Characteristics	
Sensitivity	3.5 DN/(nJ/cm <sup>2</sup> ) [at 8-bit, 1 x gains]
Dynamic Range	58 dB
Full Well Capacity	7950 e-
Quantum Efficiency	42 % (green peak), 52 % (mono peak)
Read Noise	10 e-
Dark Current Noise	<1e <sup>-</sup> /s at 22 °C
Mechanical Specifications	
Data Interface	USB 2.0
Lens Mount	Adjustable C-mount standard
Dimensions (met)	57.15 x 97.79 x 39.624 mm (enclosed)
Dimensions (imp)	2.25 x 3.85 x 1.56 inches (enclosed)
Mass	330 g
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	5 to 95 % non-condensing
Shock / Vibration	50 g shock, 5 g (2 to 200 Hz) vibration
Camera Software	
Operating Systems	Windows XP, Vista, 7, Mac OSX, 32 and 64-bit
Power and Emissions	
Power Consumption	~2.5 W
Power Requirement	USB bus power (external 5 V DC, 500 mA)
Emissions Compliances	FCC Class B, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	One (1) year
System Requirements	
Recommended PC Specs:	<ul style="list-style-type: none"> <li>• Pentium 4, 1.3 GHz or higher</li> <li>• 512 MB RAM</li> <li>• 500 MB hard drive free space or more</li> <li>• USB 2.0 Port</li> <li>• Windows 7</li> </ul>
Minimum PC Specs:	<ul style="list-style-type: none"> <li>• 600 MHz Processor</li> <li>• 256 MB of SDRAM</li> <li>• 200 MB hard drive free space</li> <li>• USB 2.0 Port</li> <li>• Windows XP</li> </ul>
Included In The Box	
INFINITY2-5	5 MP Digital Camera for USB 2.0
LuINFSW-DVD	DVD with INFINITY user application software, TWAIN driver and documentation
Lu802	2 m USB 2.0 cable
Ordering Information	
INFINITY2-5C	5 MP CCD Color Camera
INFINITY2-5M	5 MP CCD Monochrome Camera
INFINITY ANALYZE MODULE	INFINITY ANALYZE Advanced Features Module (Multi-Focus Composition and Spherical Aberration Correction Features)
LuSDKSW	Software Developer's Kit (Web Download)
LuSDKSW-DVD	Software Developer's Kit (DVD)
La20515	5 V DC, 2.5 A, 12.5 W Power Supply (Optional)

