INFINITY *1-3*

3.1 Megapixel CMOS USB 2.0 Camera

Scientific digital imaging for documentation in life science, clinical and material science applications

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The INFINITY *1-3* scientific CMOS camera provides extremely fine detail that was previously invisible to lower megapixel imaging systems with 2048x1536 resolution. Benefit from fast, smooth previews during sample manipulation with high frame rates of up to 80 frames per second.

Excellent Color Reproduction

Years of experience in the microscopy market have allowed Lumenera to develop specialized color algorithms, ensuring excellent color reproduction in samples ranging from stained cells to wafer inspection.

Full Image Analysis Software Included

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

USB 2.0 Plug-and-Play Interface

Once the software has 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, capture application and ImageJ plug-in are available for the INFINITY *1-3*.

Superior Technical Assistance Center (TAC)

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

Features

- Low noise progressive scan ½" 3.1 megapixel CMOS sensor
- Full color sub-windowing allows for rapid focus and scanning of samples; up to 80 fps at 640x480 resolution
- 8 or 10-bit pixel data modes
- Software compatible with Windows XP, Windows Vista, Windows 7, and Mac OSX, 32 and 64-bits
- Includes TWAIN and DirectX/ Direct Show support
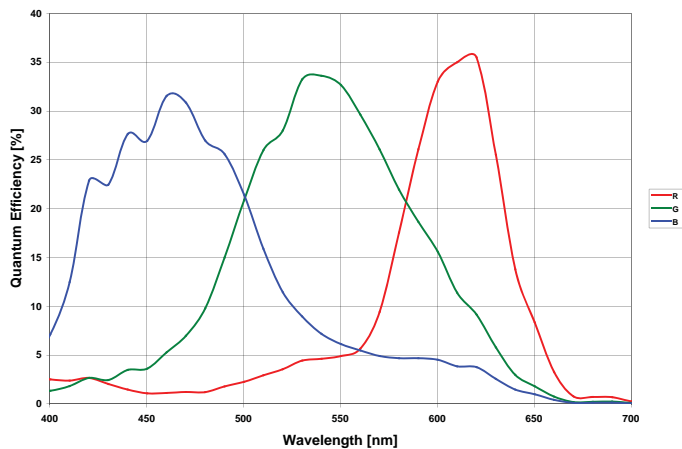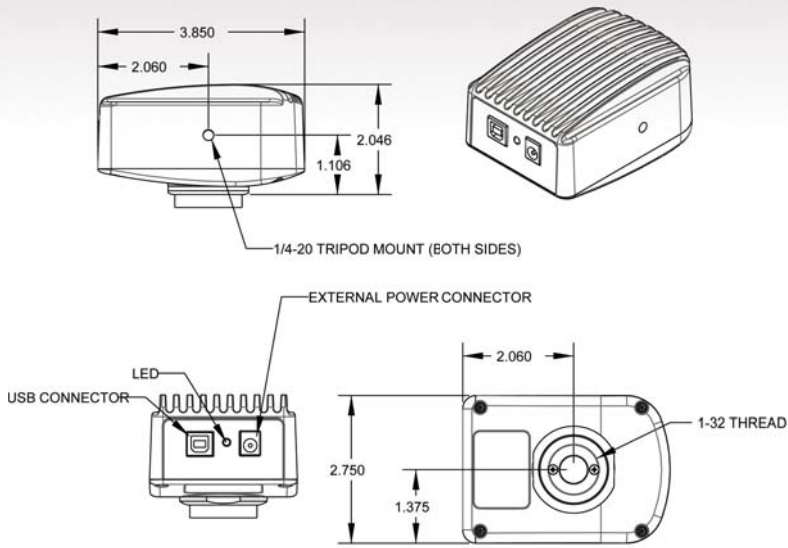
Recommended Applications

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

Warranty

- One (1) year parts and labor

Microscope Coupler

- Requires 0.5x c-mount coupler

Sensor Specifications	
Image Sensor	Micron MT9T001, CMOS, color, progressive scan
Optical Format	1/2"
Active Area	6.5mm x 4.9mm
Pixel Size	3.2µm x 3.2µm
Resolution	2048 x 1536
Region of Interest Control	Any multiple of 8 x 8 pixels, 32 x 32 pixels minimum

Camera Specifications	
Frame Rate	12 fps
Bit Depth	8 or 10-bits
Binning / Subsampling Modes	2x subsampling mode
Exposure Control	Manual and automatic control
Exposure Range	128µs - 500ms (video), 128µs - 4s (snapshot)
Gain Control	Manual and automatic control
Gain Range	1-3.88x
White Balance	Manual and automatic control

Camera Characteristics	
Sensitivity	0.92DN/(nJ/cm^2) (at 8-bit data, 1x gains)
Dynamic Range	63dB
Pixel Well Depth	20,000 e-
Quantum Efficiency	36 % (red-peak)
Read Noise	18 e-
Dark Current Noise	<8 e-/s

Mechanical Specifications	
Data Interface	USB 2.0
Lens Mount	Adjustable C-Mount standard
Dimensions	2.75 x 3.85 x 2.25 inches
Mass	300 grams
Operating Temperature	0° C - 50° C
Storage Temperature	-30° C - 70° C
Operating Humidity	5%-95%, non-condensing
Shock / Vibration	50 G shock, 5 G (2-200 Hz) vibration

Camera Software	
Operating Systems	Windows XP, Windows Vista, Windows 7, Mac OSX, 32 and 64-bits

Power and Emissions	
Power Consumption	~2.5 Watts
Power Requirement	USB bus power (optional 6VDC - 500mA)
Emissions Compliances	FCC Class BE, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	One (1) year

System Requirements	
Recommended PC Specs:	• Pentium 4, 1.3 GHz or higher • 512 MB RAM • 500 MB hard drive free space or more • USB 2.0 Port • Windows 7
Minimum PC Specs:	• 600 MHz Processor • 256 MB of SDRAM • 200 MB hard drive free space • USB 2.0 Port • Windows XP

Included In The Box	
INFINITY 1-3C	3.1 MP digital camera for USB 2.0
LuINFSW-DVD	DVD with INFINITY user application software (including INFINITY ANALYZE), TWAIN driver and documentation
Lu802	2 m USB 2.0 Cable

Ordering Information	
INFINITY 1-3C	3.1 MP CMOS Color Camera

Ordering Options	
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)
La20606	6VDC, 2A, 12W Power Supply (Optional)

Color Response Curve