

# INFINITY3-1URF

High-Speed, Low Noise, and High Sensitivity, 1.4 Megapixel CCD USB 2.0 Camera

Cooled Performance from an Uncooled Camera

Scientific Digital Camera for Documentation and Image Analysis in Low Light Life Science, Clinical and Material Science Applications.



## INFINITY Fluorescence Series Bundle Includes

- INFINITY3-1URF camera
- INFINITY ANALYZE and INFINITY CAPTURE Software
- INFINITY Advantage Pack LuAP-2
- Free 9-month trial of Media Cybernetics Image-Pro Premier
- Extended 5-year warranty



## INFINITY3-1URF

The INFINITY3-1URF scientific camera is designed specifically for low light applications including fluorescence and gel documentation. The excellent color reproduction of the INFINITY3-1URF CCD camera ensures simple, high quality image capture. A high dynamic response easily manages difficult samples without increasing exposure levels that reduce the quality of preview and captured images. This camera is ideal for challenging lighting conditions found in life science, clinical and industrial applications. The INFINITY3-1URF provides live video up to 30 frames per second (fps) at full 1392 x 1040 resolution. The research-grade designation of the INFINITY3-1URF is a testament to the low noise electronics, high-grade components and unique thermal management techniques. The result is an industry-leading, high-performance, low noise digital camera.

## Superior Sensitivity and Color Reproduction

Equipped with Sony's ICX285 CCD sensor, the INFINITY3-1URF has the unmatched light sensitivity needed for low light applications. Superior performance is achieved through low noise electronics, high grade components and Lumenera's unique thermal management techniques. With an extremely high dynamic range and large 6.45  $\mu\text{m}$  square pixels, this camera is an excellent choice for light-challenged applications.

## 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 combine to create a complete microscopy imaging solution for your application.

## Free 9-Month Trial of Media Cybernetics Image-Pro Premier

Image-Pro Premier offers intuitive tools that make it easy to capture, process, measure, analyze and share your images and valuable data.

## 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

Lumenera offers support for INFINITY camera users operating on a Mac platform. A Mac camera driver, ImageJ plug-in and the INFINITY ANALYZE for Mac application package are available for the INFINITY3-1URF.

## 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

- Low noise 2/3" 1.4 megapixel Sony ICX285 CCD sensor
- Full color sub-windowing allows for rapid focus and scanning of samples; up to 54 fps at 640 x 480 resolution
- 8 or 14-bit pixel data modes
- Software compatible with Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit operating systems
- Includes TWAIN and DirectX/ Direct Show support

## Image-Pro Premier Software Features

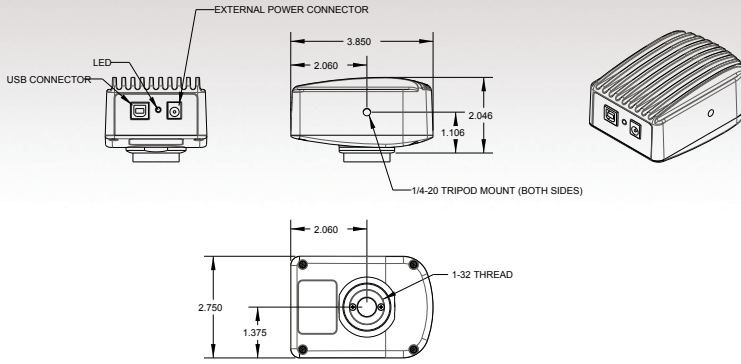
- 64-bit single capture and streaming to disk
- Quick access to intensity and morphology over-time studies
- Extensive microscopy file format support and simple color compositing
- Industry-leading co-localization analysis on whole images or user-defined regions
- Analysis tools to identify, count, measure, and classify whole cells, nuclei, membranes, cytoplasmic structures, and more
- Perform population studies using thousands of images with intuitive batch processing
- Discount offer for purchase of software
- Image-Pro Premier is compatible with Windows XP SP 3 and later (32 bit), and Windows 7 Professional and Ultimate (32 and 64 bit)

## Warranty

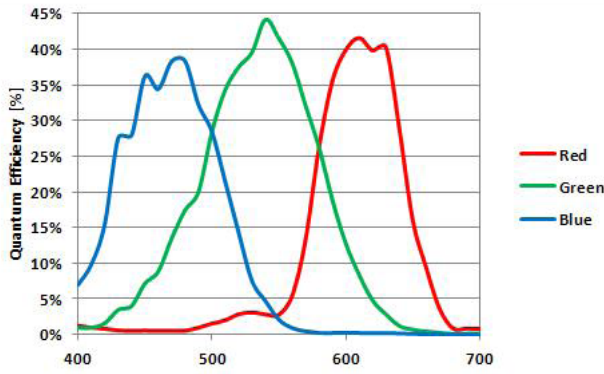
- Five (5) years parts and labor



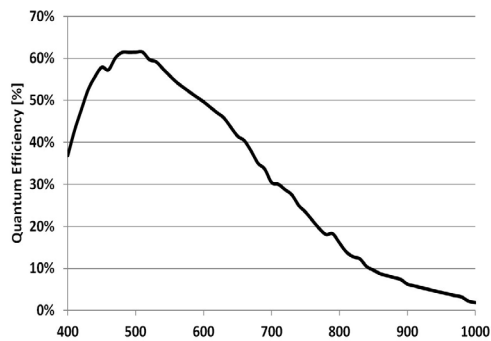
Mechanical Drawing



Color Quantum Efficiency Curves



Monochrome Quantum Efficiency Curve



Sample Images

For sample images please visit our online gallery at: [www.lumenera.com/microscopyimages/](http://www.lumenera.com/microscopyimages/)

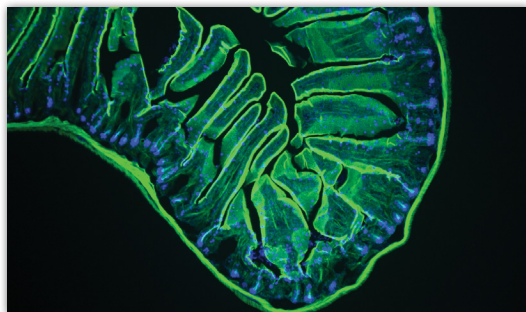


Image Sensor	SONY ICX285, CCD, color or mono, progressive scan
Optical Format	2/3 "
Imager Size	Diagonal 11 mm
Pixel Size	6.45 x 6.45 $\mu$ m
Resolution	1392 x 1040 pixels
Region of Interest Control	Any multiple of 8 x 8 pixels (8 x 8 pixels minimum)
<b>Camera Specifications</b>	
Frame Rate	30 fps at full resolution, 54 fps at 640 x 480 (ROI)
Bit Depth	8 or 14-bit
Binning Modes	2 x 2, 4 x 4
Exposure Control	Manual and automatic control
Exposure Range	3 $\mu$ s to 211 ms (video), 2 $\mu$ s to 10 min (snapshot)
Gain Control	Manual and automatic control
Gain Range	0.5 to 35 x
White Balance	Manual and automatic control
<b>Camera Characteristics (at 4.7 fps)</b>	
Sensitivity	Mono: 6.6 DN/(nJ/cm <sup>2</sup> ), Color: 5.3 DN/(nJ/cm <sup>2</sup> ) (Global and channel gains at unity)
Dynamic Range	70 dB
Full Well Depth	18,500 e-
Quantum Efficiency	44 % (color peak), 62 % (mono peak)
Read Noise	6 e-
Dark Current Noise	<1 e-/s at 22 °C
<b>Mechanical Specifications</b>	
Data Interface	USB 2.0
Lens Mount	Adjustable C-Mount standard
Dimensions	97.8 x 88.9 x 60.6 mm 3.85 x 3.5 x 2.4 inch
Mass	340 g
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	5 to 95%, non-condensing
Onboard Memory	Camera has onboard non-volatile memory storage
<b>Camera Software</b>	
Operating Systems	Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit
<b>Power and Emissions</b>	
Power Consumption	~2.5 W (5 V DC, 2.5 A, 12.5 W power supply optional)
Power Requirement	USB bus power (optional external power supply recommended for optimal performance at 30 fps)
Emissions Compliances	FCC Class B, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	Five (5) years
<b>Included In The Box</b>	
INFINITY3-1URF	1.4 MP Digital Camera and 3m USB 2.0 Cable
LuINFSW-DVD	DVD with INFINITY user application software, TWAIN driver and documentation
<b>Ordering Information</b>	
INFINITY3-1URFC	1.4 MP Uncooled CCD Color Camera
INFINITY3-1URFM	1.4 MP Uncooled CCD Monochrome Camera
LuSDKSW	Software Developer's Kit (Web Download)
La050315	5 V DC, 2.5 A, 12.5 W Power Supply

Recommended Applications

Fluorescence Microscopy; Green Fluorescence Protein; Fluorescence In Situ Hybridization; DNA Analysis; Live Cell Imaging; Brightfield, Darkfield, DIC/Phase; Near IR Imaging; Histology, Pathology and Cytology; Forensic Analysis; Gel Documentation; Quantitative Analysis

