

1.4 Megapixel Cooled CCD USB 2.0 Camera

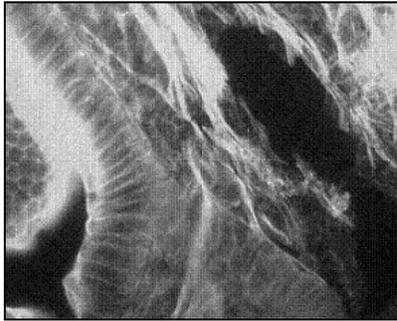
High Resolution Cooled CCD Color or Monochrome Microscopy Camera for Quantitative Image Analysis



Outline

Lumenera's INFINITY3-1 camera is designed to be used in a wide variety of scientific applications. Cooled models are ideal in low-light conditions and where high dynamic range is required. Both color and monochrome product models are available.

With 1392x1040 resolution and on-board processing, these cameras deliver outstanding image quality and value for industrial and scientific imaging applications.



Uncompressed images in live streaming video and still-image capture are provided across a USB 2.0 digital interface. No framegrabber is required.

Hardware and software based synchronization trigger is available as an option provided. On-board memory is available for frame buffering. INFINITY3-1 model cameras are offered in both enclosed and board-level form. Custom form factor (sizes) can be provided.

Every INFINITY camera includes [INFINITY_ANALYZE](#) software for advanced camera control, image processing, measuring and annotation, and INFINITY CAPTURE.

All Lumenera products are supported by an experienced team of software developers and application engineers. We understand your imaging needs and are here to help you with your integration and development.

Performance Features

- ❑ **High-speed USB 2.0 (480Mbps/sec) interface eliminates a framegrabber and facilitates ease of installation on both laptop and desktop computers**
- ❑ **Available in color or monochrome**
- ❑ **Cooled feature reduces thermal noise during low light fluorescent imaging**
- ❑ **Low noise characteristic of the INFINITY3-1 progressive scan 1.4 megapixel CCD image sensor results in crisp color quality for the most demanding brightfield, phase contrast, and fluorescent applications including GFP, FISH, NIR, FRET, life science and geology**
- ❑ **Full color sub-windowing allows for rapid focus and scanning of samples: 15 fps at full 1392x1040 resolution**
- ❑ **Select 8 & 12-bit pixel data modes**
- ❑ **The RGB data captured through each pixel contains 30-bits of color image information resulting in 1024 intensity values**
- ❑ **Camera control through an intuitive user TWAIN interface results in rapid image capture archiving and documentation for high throughput applications, demanding research environments and teaching facilities**
- ❑ **The INFINITY3-1 has a compact design equipped with a C-Mount facilitating installation on all microscope configurations including upright, inverted and stereo**
- ❑ **INFINITY3-1U cameras are software compatible with Windows 2K, Windows XP, Windows Vista and MAC OS 10.4 operating systems**
- ❑ **Full one (1) year warranty**

Specifications

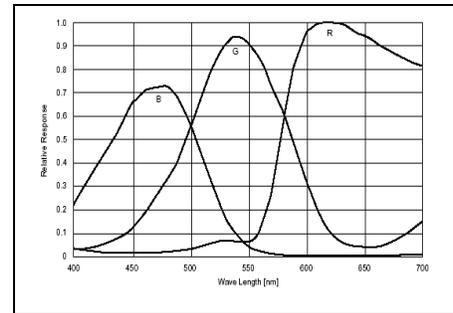
INFINITY 3-1

Camera Sensor

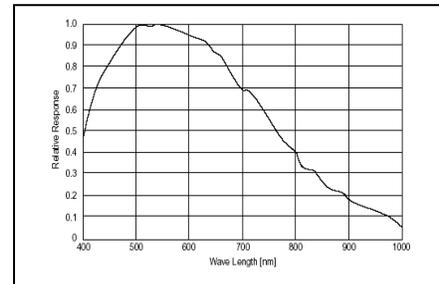
Image Sensor	Sony ICX285 2/3" format, 1.4 megapixel color or monochrome progressive scan CCD sensor
Effective Pixels	1392 X 1040, 1.4 million pixels
Frame Rate	15 fps at 1392x1040, increased through binning and ROI
Digital Output	8 and 12-bit
Dark Current (e-/s)	0.15 electrons / pixel / s when cooled
Pixel Size	6.45µm X 6.45µm
Full well capacity	>18,000 electrons
Readout Noise	8 e- rms
Cooling type	Hermetically sealed and dry gas filled Peltier cooling to 25 degrees Celsius below ambient
Readout Frequency	28.6 MHZ

Camera Controls

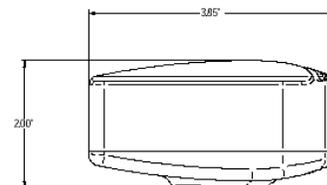
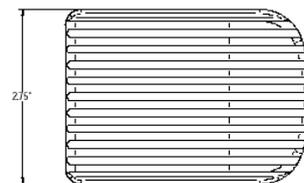
Power Requirement	External 5VDC - 3amp
Power Consumption	~2.5 watts uncooled / ~8.5 watts cooled
Operating Temperature	0° C to +50° C
Operating Humidity	5%-95%, Non-condensing
Integration Time	3.5µs to 20 minutes
Auto Exposure	Automatic / Manual
White Balance	Automatic / Manual
Gain	Programmable / 1 to 10X
Interface	USB 2.0 high-speed interface
Dimensions (L x W x H)	3.85 x 3.5 x 2.446 inches
Lens Mount	C-Mount lens adapter
Binning Options	2x2, 3x3, 4x4



Color Response Curve



Mono Response Curve



Applications

Fluorescent Microscopy
Green Fluorescent Protein Applications
Fluorescent In Situ Hybridization
DNA Analysis
Live Cell Imaging
Brightfield, Darkfield, DIC/Phase techniques
Near IR Applications
Histology, Pathology and Cytology
Forensic Analysis
Semiconductor Inspection
Metallurgical Microscopy

Ordering Information

INFINITY 3-1C	- Color 1.3 MP Cooled CCD Camera
INFINITY 3-1M	- Monochrome 1.3 MP Cooled CCD Camera
LuSDK	- Software Developer's Kit and Accessories