

# USB 3.0 CAMERAS

Lumenera offers USB 3.0 industrial and scientific-grade cameras. The incredibly fast USB 3.0 interface, combined with industry leading CCD and CMOS sensor technology, has resulted in high sensitivity cameras well suited for applications requiring high-speed image acquisition and exceptional performance. Lumenera also offers a research-grade USB 3.0 microscopy camera series, which features superior responsiveness, high dynamic range and provides clear, crisp images in challenging, low light situations.

Unleash speed limitations with USB 3.0: remove slow data interface limitations found with GigE, or the software and hardware complexities of framegrabbers associated with CameraLink and CoaXPress. The result is a simplified solution and reduced total system cost.

**Contact us for more information on these high powered cameras, or for USB 3.0 camera comparisons.**



# USB 3.0 CAMERAS

2, 2.8, 4, 6 & 9.1 Megapixel CCD & CMOS Sensors

## USB 3.0 CAMERA ORDERING OPTIONS

Lt CAMERAS	ORDERING OPTIONS	SENSOR
Lt425C	4.0 megapixel, color	CMOS
Lt425M	4.0 megapixel, monochrome	CMOS
Lt425M-NIR	4.0 megapixel, monochrome, NIR enhanced	CMOS
Lt225C	2.0 megapixel, color	CMOS
Lt225M	2.0 megapixel, monochrome	CMOS
Lt225M-NIR	2.0 megapixel, monochrome, NIR enhanced	CMOS
Lt365RC	2.8 megapixel, color	CCD
Lt365RM	2.8 megapixel, monochrome	CCD
Lt665RC	6.0 megapixel, color	CCD
Lt665RM	6.0 megapixel, monochrome	CCD
Lt965RC	9.1 megapixel, color	CCD
Lt965RM	9.1 megapixel, monochrome	CCD
Lt1265RC	12.0 megapixel, color	CCD
Lt1265RM	12.0 megapixel, monochrome	CCD
Lt16059HC	16.0 megapixel, color	CCD
Lt16059HM	16.0 megapixel, monochrome	CCD
INFINITY CAMERAS	ORDERING OPTIONS	SENSOR
INFINITY3-3URC	2.8 megapixel, color	CCD, uncooled
INFINITY3-3URM	2.8 megapixel, monochrome	CCD, uncooled
INFINITY3-6URC	6.0 megapixel, color	CCD, uncooled
INFINITY3-6URM	6.0 megapixel, monochrome	CCD, uncooled



## DON'T COMPROMISE ON IMAGE QUALITY OR PERFORMANCE

### CMOS & CCD Sensors

With 4 imaging divisions, Lumenera has access to a vast array of sensors and can help you select the solution that is right for you.

### Up to 100 Meter Cable Lengths

Field tested extenders and cables allow up to 100 meter distances.

### Easy to Install USB 3.0

Ensure a simple, plug-and-play installation with a fully locking USB 3.0 cabling and digital interface.

### High-Quality and Reliability

Reduce costs and shorten work cycles with our innovative high-quality solutions and stable, reliable products.

### Reliable Delivery of Images with Onboard Buffer

Reliable delivery of your images with 128 MB of built-in frame buffer. Reduce chances of data loss due to competing requests on a host computer.

### Proven, Robust API with Field Tested Drivers

Work with confidence knowing our USB drivers and camera API have been honed and tested for over 12 years and have built a reputation on their stability. Same API as our field proven USB 2.0 cameras.

### Image Correction for Exceptional, High Quality Images

Lumenera is known for its proprietary image correction techniques improve image uniformity and provide true-to-life color in a consistent and repeatable manner.

### Built-in Image Pre-Processing in FPGA

Offload computer CPU demands with a built-in FPGA capable of performing image pre-processing; a competitive differentiator. Without an FPGA, image pre-processing takes place inside the host computer requiring significant CPU resources.

### No Costly Framegrabbers or Adapter Cards

Save your dollars. Unlike CameraLink or FireWire, costly accessories are not required.

### Compact Design and Low Noise Electronics

Obtain the best image quality possible in a compact package, without the performance sacrifices found in smaller cameras. Our camera architecture is designed with image quality in mind.

### Ease of Integration with Our Advanced SDK

Maximize your camera performance and vision application with a full suite of features and functions including sample applications and source code. Compatible with all of our USB and GigE-based cameras.

## HIGH SPEED, CMOS

### Lt225, Lt425

The Lt225 and Lt425 enclosed digital camera are built for rugged 24/7 use. Both cameras have a proven, high resolution CMOS sensor with a fully electronic global shutter that captures excellent quality, high-speed images with zero blur. The industrial-grade version of this camera is ideally suited for applications that include traffic monitoring, Automatic License Plate Recognition (ALPR), high-speed inspection and motion control. This camera can be customized to suit OEM designs and is available in a scientific-grade version.

#### PRODUCT HIGHLIGHTS

- Very high frame rates up to 170 fps at full resolution
- ROI support for even faster frame rates
- Blur-free global shutter CMOS sensor
- 2 and 4 megapixel color, mono, NIR enhanced
- Built-in image processing and frame memory buffer for reliable image delivery
- Low noise and high sensitivity



## HIGH SENSITIVITY, CCD

### Lt365R, Lt665R, Lt965R, Lt1265R, Lt16059H

These high performance USB 3.0 cameras are built with leading edge sensor technology from Sony (EXView HAD II), and ON Semiconductor, making these cameras ideal for applications where high resolution and sensitivity are critical, such as: traffic, tolling, high-speed inspection and machine vision. These cameras were built on low noise electronics to render details with amazing accuracy at astounding speeds. This responsiveness and high dynamic range, make them a great choice for Near-Infrared (NIR) imaging. These cameras include 128 MB of onboard memory for frame buffering, which ensures dependable and reliable image delivery even in the most demanding environments. Unlike some competitive camera companies, Lumenera's buffer technology delivers all frames at full speed and max resolution without introducing latency. A scientific-grade variant is available for the most demanding life science applications.

#### PRODUCT HIGHLIGHTS

Camera	MP	Resolution	Sensor	Frame Rate	Color/Mono
Lt365R	2.8	1392x1040	Sony ICX674	53 fps at full resolution 66 fps at full HD	Color / Mono
Lt665R	6.0	2752x2192	Sony ICX694	27 fps at full resolution 46 fps with 2x2 binning	Color / Mono
Lt965R	9.1	3376x2704	Sony ICX814	19 fps at full resolution 33 fps with 2x2 binning	Color / Mono
Lt1265R	12.0	4240x2832	Sony ICX834	15 fps at full resolution 26 fps with 2x2 binning	Color / Mono
Lt16059H	16.0	4864x3232	ON Semiconductor KAI-16070	12 fps at full resolution 20 fps with 2x2 binning	Color / Mono



## RESEARCH-GRADE, CCD

### INFINITY3-3UR

Lumenera's INFINITY3-3UR is a high-speed, high sensitivity, research-grade camera with a resolution of 2.8 megapixel. The INFINITY3-3UR incorporates Sony's remarkable ICX674 CCD sensor, unleashing the high frame rate capability of the sensor via a USB 3.0 data interface. The research-grade designation is a testament to the low noise electronics, high-grade components and unique thermal management techniques. This camera is designed for use in a wide variety of scientific, life science, clinical and industrial applications.

#### PRODUCT HIGHLIGHTS

- 53 fps at full resolution
- 2.8 megapixel uncooled CCD sensor
- High sensitivity and high dynamic range
- Selectable 8 or 14-bit pixel data
- Full image analysis software included
- Color or monochrome available



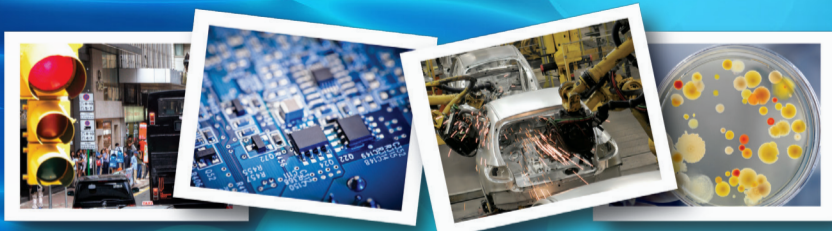
### INFINITY3-6UR

Lumenera's INFINITY3-6UR is the ideal general purpose camera for most microscopy applications due to its high resolution and excellent color reproduction, speed and light sensitivity. The camera incorporates Sony's ICX694 CCD sensor with high QE and high dynamic range. Full resolution 6 megapixel images are sent to a host computer at up to 27 fps over the plug-and-play USB 3.0 connection. This camera is designed for a wide variety of microscopy applications requiring color reproduction, extreme sensitivity, increased resolution and high speed.

#### PRODUCT HIGHLIGHTS

- 27 fps at full resolution
- 6.0 megapixel uncooled CCD sensor
- High speed and high resolution
- Selectable 8 or 14-bit pixel data
- Full image analysis software included
- Color or monochrome available

# WHY LUMENERA?



- ✓ Improve your return on investment through our cost-effective, high performance digital imaging solutions.
- ✓ Ensure the highest quality standards from design to delivery - research, development and manufacturing are tightly controlled in one location.
- ✓ Rely on our commitment to rapid product development - we have dedicated more engineers to customization than many direct competitors have employees.
- ✓ Count on our timely product supply through our long established relationships with vendors.
- ✓ Depend on our in-house manufacturing inspection and quality controls.
- ✓ Receive quick and competent responses to your technical, business, and support-related questions. Lumenera is recognized for its industry-leading pre and post-sales support and "easy-to-do business with" practices.

## LUMENERA USB 3.0 CAMERAS

To better serve you, Lumenera has forged strategic partnerships with distributors and system integrators worldwide. Please contact us at 1 (613) 736-4077 or [sales@lumenera.com](mailto:sales@lumenera.com) for details on how to order, or to join our partner program.



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