

# 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.**



[www.lumenera.com](http://www.lumenera.com)



# USB 3.0 CAMERAS

## 1.4 to 29 Megapixel CCD & CMOS Sensors

### USB 3.0 CAMERA ORDERING OPTIONS

Lt CAMERAS	ORDERING OPTIONS	SENSOR
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
Lt425C	4.0 megapixel, color	CMOS
Lt425M	4.0 megapixel, monochrome	CMOS
Lt425M-NIR	4.0 megapixel, monochrome, NIR enhanced	CMOS
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
Lt29059C	29.0 megapixel, color	CCD
Lt29059M	29.0 megapixel, monochrome	CCD
INFINITY CAMERAS	ORDERING OPTIONS	SENSOR
INFINITY3S-1URC	1.4 megapixel, color	CCD, uncooled
INFINITY3S-1URM	1.4 megapixel, monochrome	CCD, uncooled
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 PERFORMANCE CMOS & CCD CAMERAS

### GLOBAL SHUTTER 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.

### LARGE FORMAT CAMERAS

#### Lt16059H, Lt29059

These very high resolution, progressive scan cameras allow a single device to capture multiple lanes of traffic with a single image. High sensitivity, integrated electronic shutter, and high smear rejection allow for the capture of high quality, crisp, clean images. The camera houses an integrated Canon lens mount with full lens control, giving users the flexibility required to position the camera and easily operate the system, making for simple deployment. Replacing multiple lower resolution cameras with one higher resolution camera reduces system implementation, improves performance and limits maintenance costs.

### Lt CAMERA PORTFOLIO HIGHLIGHTS

Camera	MP	Resolution	Sensor	Frame Rate	Color/Mono
Lt225	2.2	2048 x 1088	CMOSIS CMV2000	170 fps at full resolution	Color / Mono / NIR
Lt365R	2.8	1392 x 1040	Sony ICX674	53 fps at full resolution 66 fps at full HD	Color / Mono
Lt425	4.0	2048 x 2048	CMOSIS CMV4000	90 fps at full resolution	Color / Mono / NIR
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
Lt29059	29.0	6576 x 4384	ON Semiconductor KAI-29050	6 fps at full resolution	Color / Mono

### SONY EXVIEW HAD II GLOBAL SHUTTER CCD

#### Lt365R, Lt665R, Lt965R, Lt1265R

These cameras couple global shutter CCD technology with a high-speed USB 3.0 interface, offering the best low noise performance and sensitivity in the industry. Sony EXview HAD II technology delivers strong signals, even from the most minute amount of light entering the sensor. Traffic applications that record fast-moving vehicles require a high-sensitivity sensor, capable of working with extremely short exposure times. Low noise and high sensitivity ensure optimized images in an array of ambient light conditions without an external flash.



## RESEARCH-GRADE MICROSCOPY CAMERAS

### INFINITY3S-1UR, INFINITY3-3UR, INFINITY3-6UR

Lumenera's Research Grade INFINITY3 series microscopy cameras feature Sony CCD sensors and offer high dynamic range and high sensitivity resulting in excellent quality images and fast preview speeds. The "R-grade" designation of the INFINITY3 series cameras is a result of the low noise electronics, high-grade components and unique thermal management techniques Lumenera has implemented inside the camera. Without active cooling, the camera is able to achieve very low dark current noise suitable for most imaging applications.

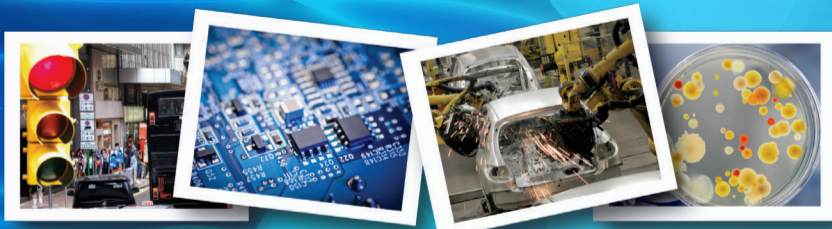
**INFINITY ANALYZE Software is included!** The INFINITY3 series cameras come with Lumenera's fully-featured INFINITY ANALYZE, an image capture and analysis software package offering camera control, measurement, annotation, tiling, and post-capture enhancement. Camera and software combine to create a complete microscopy imaging solution for your application.

### PRODUCT HIGHLIGHTS

Camera	MP	Resolution	Sensor	Frame Rate	Color/Mono
INFINITY3S-1UR	1.4	1392x1040	Sony ICX825	60 fps, mono 45 fps, color	Color / Mono
INFINITY3-3UR	2.8	1936x1456	Sony ICX674	53 fps at 2.8 megapixel 66 fps at full HD	Color / Mono
INFINITY3-6UR	6.0	2752x2192	Sony ICX694	27 fps at full resolution 46 fps with 2x2 binning	Color / Mono



# 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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