



Lt425

4.0 Megapixel High-Speed CMOS
Camera with SuperSpeed USB 3.0



High Resolution CMOS Sensor with Global Shutter

Lumenera's Lt425 enclosed digital camera is built for rugged 24/7 use. A proven high resolution 1" 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.

High Quality Images at High Speed

The Lt425 was created for speed using the latest USB 3.0 technology to ensure the fastest image delivery even at its largest resolution. Image captures can be synchronized using either a hardware or software trigger and is complemented by 128 MB of onboard memory that is used for frame buffering to ensure full image delivery.

Plug-and-Play with No Framegrabber

The compact, light weight design of this camera, measuring 40 x 40 x 53 mm, ensures easy integration into tight spaces and enclosures. The fully locking USB 3.0 cabling and digital interface ensure a simple plug-and-play installation. No framegrabber is required. Simplified I/O cabling is provided through a locking Hirose connector supporting external power input along with 1 optically isolated output, 1 optically isolated input and 2 configurable I/O ports.

Maximize Camera Performance Within Your Own Application

The Lumenera Camera SDK provides a full suite of features and functions that allow you to maximize the camera's performance within your own vision application. The SDK is compatible with all of our USB and GigE-based cameras. Microsoft DirectX/ DirectShow, Windows API and .NET API interfaces are provided, allowing you the choice of application development environments from C/C++ to VB.NET or C#.NET.

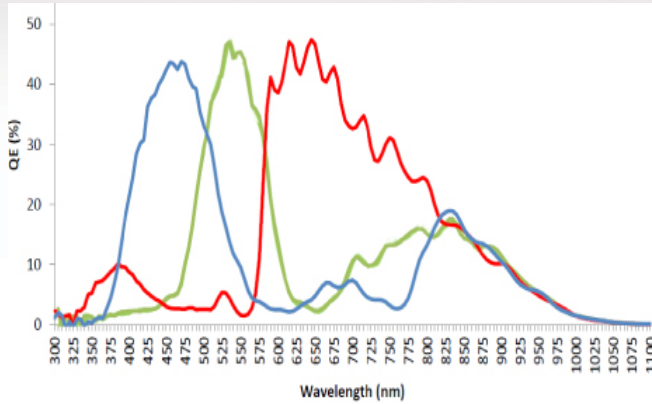
Superior Technical Assistance Center

All Lumenera cameras are supported by an experienced team of technical support and imaging experts. We understand your imaging needs and are here to help you get the most out of your camera.

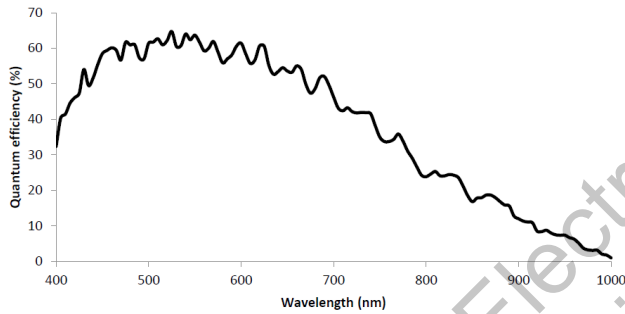
Features

- Industry proven CMOSIS CMV4000 CMOS 4.0 megapixel sensor with electronic global shutter
- SuperSpeed USB 3.0 interface for fastest image delivery and simplified connectivity
- Compact, robust form factor measuring 40 x 40 x 53 mm with 16 mounting points
- 90 fps at full resolution
- Color, monochrome or NIR CMOS sensor with 1" optical format providing a resolution of 2048 x 2048 using 5.5 μm^2 pixels
- Locking industrial micro USB and Hirose GPI/O connector for power and control of peripherals and synchronization of lighting
- 4 GPI/O: 1 optically isolated output, 1 optically isolated input and 2 configurable I/O ports
- 128 MB RAM frame buffer
- Simplified cabling – video, power and full camera control over a single micro USB 3.0 cable
- Region of Interest (ROI) option improves sensitivity and provide higher frame rates
- Select 8 or 12-bit pixel data
- FCC Class B, CE Certified
- DirectShow compatible
- Software compatible with Windows XP, Windows Vista, Windows 7, 32 and 64-bit operating systems
- Complete SDK available
- Full one (1) year warranty

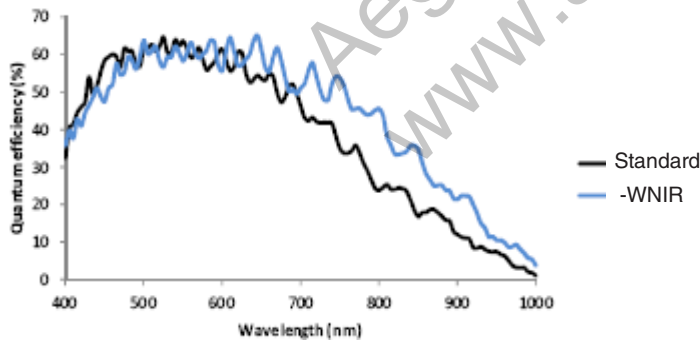
Color Quantum Efficiency Curve



Monochrome Quantum Efficiency Curve



NIR Quantum Efficiency Curves



Sensor Specifications	
Image Sensor	CMOSIS CMV4000, color, monochrome, NIR
Optical Format	1"
Active Area	11.264 mm
Pixel Size	5.5 x 5.5 μm
Resolution	2048 x 2048 pixels
Region of Interest Control	Any multiple of 8 x 8
Camera Specifications	
Frame Rate	90 fps at full resolution
Bit Depth	8 or 12-bit
Binning Modes	N/A
Exposure Control	Manual and automatic control
Exposure Range	0 to 4000 ms
Gain Control	Manual and automatic control
Gain Range	1.0 to 1.6 x
White Balance	Manual and automatic control
Trigger Modes	Hardware and software triggerable
Camera Characteristics	
Sensitivity	TBD
Dynamic Range	60 dB
Full Well Capacity	13,500 e-
Quantum Efficiency	45% peak color, 64% peak monochrome
Read Noise	13 e-
Dark Current Noise	125 e-/s (@25 C die temp)
Mechanical Specifications	
Data Interface	USB 3.0, micro locking connector
General Purpose I/O	Locking Hirose
Lens Mount	C-Mount
Dimensions	40 x 40 x 53 mm
Mass	138 g
Operating Temperature	-5 to 60 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	5 to 95 %, non-condensing
Shock / Vibration	TBD
Camera Software	
Operating Systems	Windows XP, Windows Vista, Windows 7, 32 and 64-bit operating systems
Software Interfaces	DirectShow
Power and Emissions	
Power Consumption	5 V DC @ 700 mA, ~3.25 W
Power Requirement	USB bus power (optional 5 V DC, 700 mA minimum, power through Hirose)
Emissions Compliances	FCC Class B, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	One (1) year
Ordering Options	
Lt425M	4.0 MP Monochrome Camera (Enclosed)
Lt425C	4.0 MP Color Camera (Enclosed)
Lt425M-NIR	4.0 MP NIR Camera (Enclosed)
LuCAMSW-DVD	DVD with user application software, camera device drivers and documentation
LuSDK	Software Developer's Kit (Web Download)
LuSDK-DVD	Software Developer's Kit (DVD)
Customization Options	
-SCI	Scientific grade
-WOIR	Plain glass within lens mount
-WOG	Without any glass within lens mount
-WOCG	Without any cover glass on the camera sensor