Lw070 & Lw075

VGA USB 2.0 Camera

High Image Quality in Low Light Conditions

Lumenera's Lw070 series of cameras are designed to be used in a wide variety of industrial applications, particularly in low light conditions. Color product models are available. With 640 x 480 resolution and on-board processing these cameras deliver outstanding image quality and value for industrial and scientific imaging applications.

Captures Objects in High Speed Motion

Electronic Global Shutter provides capabilities similar to a mechanical shutter, allowing simultaneous integration of the entire pixel array, and then stopping exposure while image data is read out. Ideal for capturing objects in high-speed motion.

Live Stream and Still Image Capturing

Uncompressed images in live streaming video and still image capture are provided across a USB 2.0 digital interface. No framegrabber is required. Advanced camera control is available through a complete Software Developer's Kit, with sample code available to quickly integrate camera functions into OEM applications.

Customized Form Factors

Hardware and software based synchronization trigger is provided standard. On-board memory is available for frame buffering. Lw070 series cameras are offered in both enclosed and board-level form. Custom form factor (sizes) can be provided.
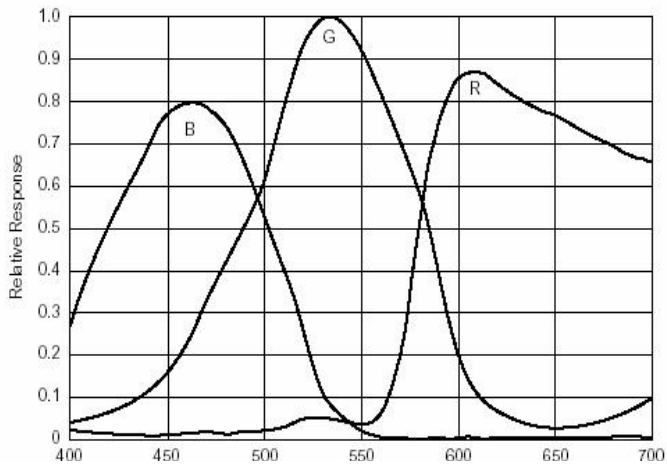
Application

The Lumenera Camera SDK provides a full suite of features and functions that allow you to maximize the performance of your camera within your application. The SDK is compatible with all 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. Full inline IntelliSense autocompletion and documentation is provided with the .NET API interface and is accompanied by a full API manual describing all the camera functions and properties.

Features

- Global electronic shutter

- Excellent sensitivity

- Color, interline, progressive scan, 640 x 480 resolution

- 60 fps at full 640 x 480

- +100 fps 320 x 240 (binning mode)

- Auto white balance & s/w adjustable exposure

- On-board image buffer

- GPI/Os for control of peripherals and synchronization of lighting (4in/4out)

- FCC Class B, CE

- Select 8 or 12-bit pixel data

- Simplified cabling - video, power and full camera control over a single USB cable

- DirectShow compatible

- C-mount provided

- Software compatible with Windows 10, Windows 8.1, Windows 7, Linux, 32 and 64-bit operating systems

- Complete SDK available

- Four (4) year warranty

Color Quantum Efficiency Curves

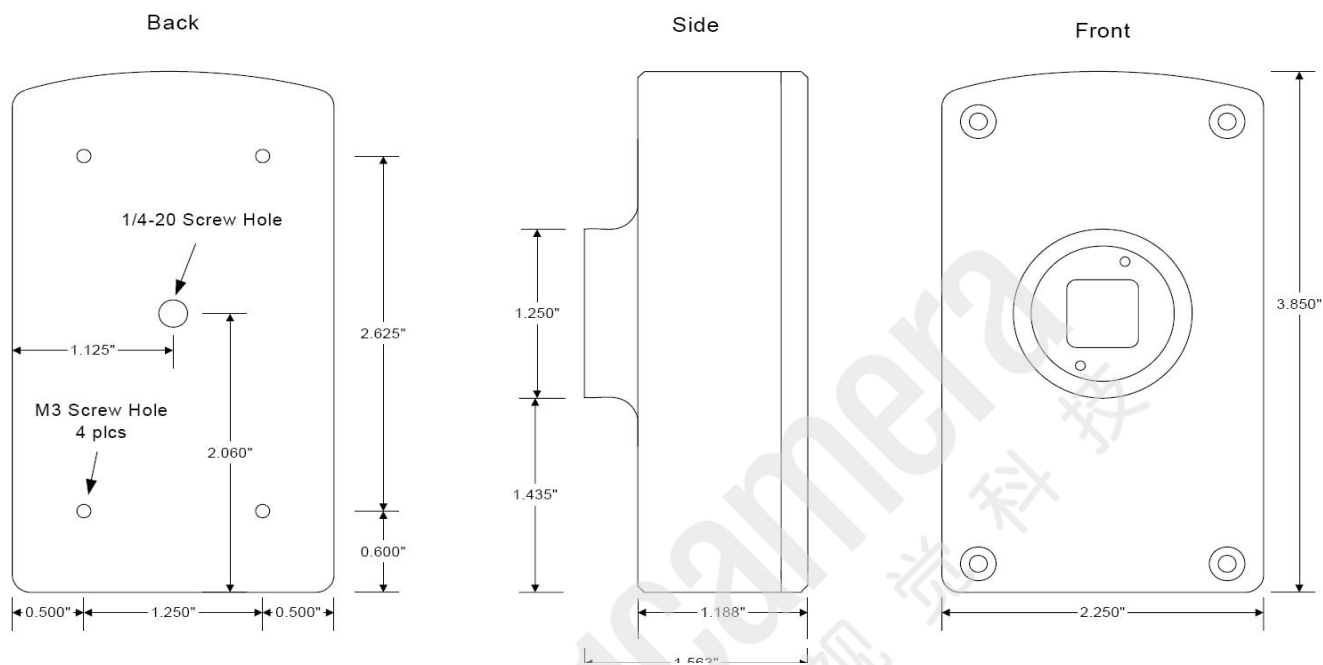| Sensor Specifications	
Image Sensor	Sony ICX424AQ, HAD CCD, color or mono, progressive scan
Optical Format	1/3"
Active Area	5.8 x 4.9 mm
Pixel Size	7.4 x 7.4 um
Resolution	640 x 480 pixels
Camera Specifications	
Frame Rate	60 fps
Bit Depth	8 or 12-bits
Exposure Control	Manual and automatic control
Exposure Range	33.5 us to 1084 ms (video), 100 us to 178 m (snapshot)
Gain Control	Manual and automatic control
Gain Range	1 to 23.82 X
White Balance	Manual and automatic control
Camera Characteristics	
Dynamic Range	57 dB
Full Well Capactiy	42,000 e-
Read Noise	60 e-
Dark Current Noise	<0.01e/s
Mechanical Specifications	
Data Interface	USB 2.0 Type B
Lens Mount	Adjustable C-mount standard, (CS-mount option)
Dimensions (HxWxD)	39.62 x 57.15 x 96.52 mm (enclosed) 1.56 x 2.25 x 3.8 inch (enclosed)
Mass	150 g (enclosed)
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	0 to 95 %, non condensing
Shock / Vibration	50 g shock, 5 g (2 to 200 Hz) vibration
Onboard Memory	Camera has onboard non-volatile memory storage
Camera Software	
Operating Systems	Windows 10, Windows 8.1, Windows 7, Linux, 32 and 64-bit operating systems
Software Interfaces	Windows API, .NET, DirectX
Power and Emissions	
Power Consumption	~2.5W
Power Requirement	USB bus power (optional La050315 power supply may be required for PCs with shared USB resources)
Emissions Compliances	FCC Class BE, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	Four (4) year
System Requirements	
Recommended PC Specs	• Pentium 4, 1.3 GHz or higher • 512 MB RAM • 60 MB hard drive free space or more • USB 2.0 Port • Windows 10, 8.1, 7; Linux

Ordering Options	
Lw070C	VGA Color Camera Module (Board Level)
Lw075C	VGA Color Enclosed Camera
LuSDK	Software Developer's Kit (Web download)
La050315	Transformer, 5VDC, 15W, 3A, International
Camera Includes	
Lu802	3M USB 2.0 A to B cable
Lu905	Tripod mount
Customization Options	
-WOIR	Without IR Cut Filter (in optical path)
-CS	With Adjustable CS-mount lens mount

Lumenera corporation

Enclosed Mechanical Drawings

Back

1/4-20 Screw Hole

1.125"

M3 Screw Hole
4 plcs

2.625"

2.060"

0.600"

0.500" 1.250" 0.500"

Side

1.250"

1.435"

1.188"

1.563"

Front

3.850"

2.250"

Board Level Mechanical Drawings

2.000"

1.740"

4-40 Hex
Cap Screw

2.500"

0.500"

2.240"

0.085"

0.500"

0.940"

1.440"

0.266"

Front

1.250"

1" 32 TPI
C-Mount

0.815" 0.625"

1.680"

Side

0.375"

0.440"

0.500"

4-40 Machine Screw Hole
4 places

Bottom