Lu100 & Lu105

1.3 Megapixel USB 2.0 Camera

High Image Quality in Low Light Conditions

Lumenera's Lu100 and Lu105 series of megapixel cameras are designed to be used in a wide variety of industrial applications, particularly in low light conditions. With 1280 x 1024 resolution and on-board processing these cameras deliver outstanding image quality and value forindustrial 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.

Customizational Form Factors

Hardware and software based synchronization trigger is provided standard. Camera models are offered in both enclosed (Lu100) and board-level (Lu105) form. Custom form factor (sizes) as well as color and monochrome camera models are available.
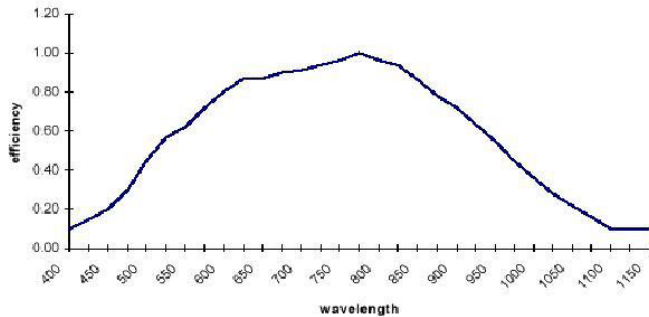
Application

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

- Monochrome, progressive scan,1.3 megapixel sensor

- 5 fps at full 1280 x 1024 resolution

- 30 fps at 640 x 480 (sub-sampled)

- Stable, reliable camera drivers for running multiple cameras on a PC or other USB devices

- Full sub-window control

- Auto exposure

- Snapshot mode for use with strobe

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

- FCC Class B, CE Ready

- Select 8 or 10-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
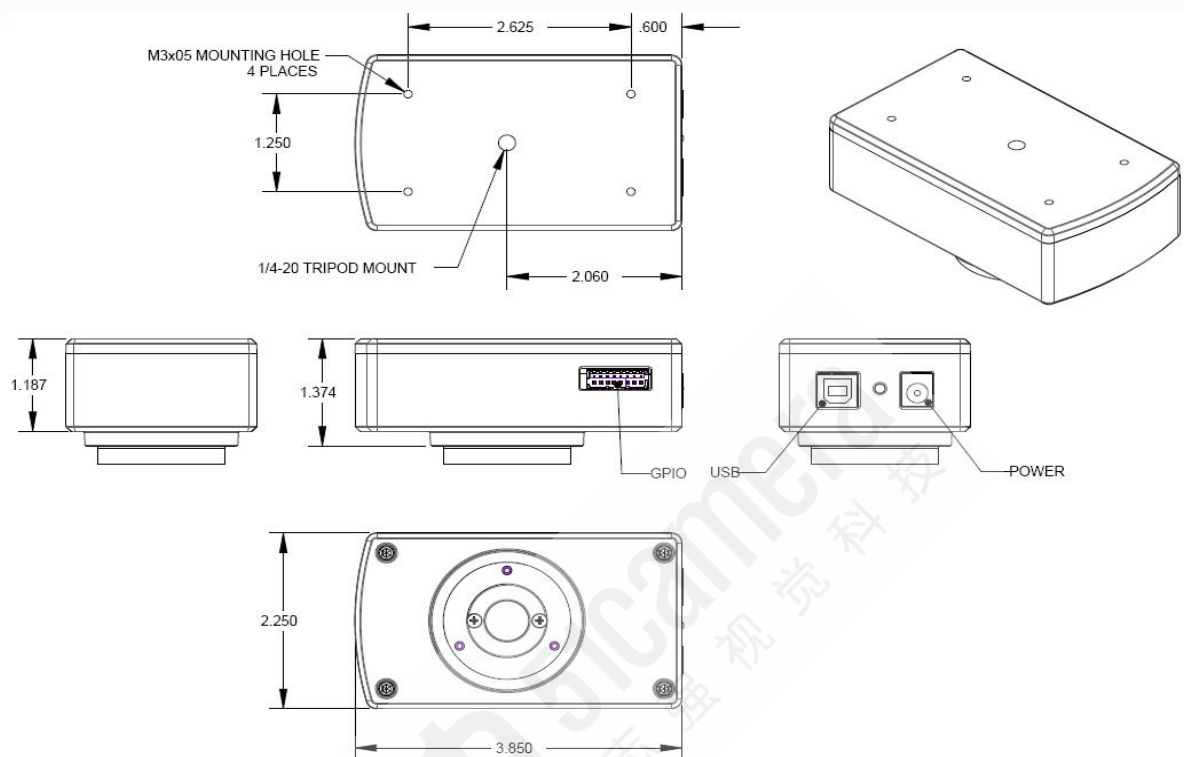
- Four (4) year warranty

Monochrome Quantum Efficiency Curve

Sensor Specifications	
Image Sensor	Omnivision OV9121, CMOS, monochrome progressive scan
Optical Format	1/2"
Imager Size	Diagonal 8.46 mm
Pixel Size	5.2 x 5.2 um
Resolution	1280 x 1024 pixels
Camera Specifications	
Frame Rate	15 fps @ 1280x1024, 30 fps @640x480 (sub-sampled)
Bit Depth	8 or 10-bits
Exposure Control	Automatic control
Exposure Range	64 us to 532 ms (video), 0.04 us to 2796 m (snap-shot)
Gain Control	Manual and automatic control
Gain Range	1 to 8.0 X
White Balance	Automatic control
Camera Characteristics	
Sensitivity	1 V / Lux sec
Dynamic Range	60 dB
Mechanical Specifications	
Data Interface	Standard USB cable
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	300 g (enclosed)
Operating Temperature	0 to 50 ºC
Storage Temperature	-30 to 70 ºC
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	~2.5 W
Power Requirement	USB bus power, or external 6 V DC, 700 mA
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	
Lu100M	1.3 Megapixel Monochrome Camera Module (Board Level)
Lu105M	1.3 Megapixel Monochrome Enclosed Camera
LuSDK	Software Developer's Kit (Web download)
La20606	6 V DC power supply
Camera Includes	
Lu802	2M USB 2.0 A to B cable
Customization Options	
-WOIR	Without IR Cut Filter (in optical path)
-WIR	With IR Cut Filter (in optical path)
-CS	With Adjustable CS-mount lens mount
-LS	Low Speed

Enclosed Mechanical Drawings

M3x05 MOUNTING HOLE
4 PLACES

2.625   .600

1.250

1/4-20 TRIPOD MOUNT

2.060

1.187

1.374

GPIO   USB   POWER

2.250

3.850

Board Level Mechanical Drawings

2.000"
1.740"

1.500"

2.500"   2.240"

0.085"

0.500"
0.940"
1.440"

Diameter 1.500"

Front

1" 32 TPI
C-Mount

1.240"

0.762"   0.625"
1.637"

Side

4-40 Machine Screw Hole
2 places

0.262"

0.500"

4-40 Machine Screw Hole
4 places

Bottom

Lumenera
corporation