



## Outline

Lumenera's Lu120 series of megapixel cameras are designed to be used in a wide variety of applications. Both color and monochrome models are available.

With 1280x1024 resolution and on-board processing these cameras deliver outstanding image quality and value for industrial and scientific imaging applications.

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.

Uncompressed images in live streaming video and still-image capture are provided across a USB2.0 digital interface. No frame-grabber 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.

Hardware and software based synchronization trigger is provided standard. On-board memory is available for frame buffering. Lu120 model cameras are offered in both enclosed and board-level form. Custom form factor (sizes) can be provided.

All Lumenera products are supported by an experienced team of software developers and application engineers. We understand your imaging needs and are here to help you with your integration and development. Products come with a full one (1) year warranty.

## Features

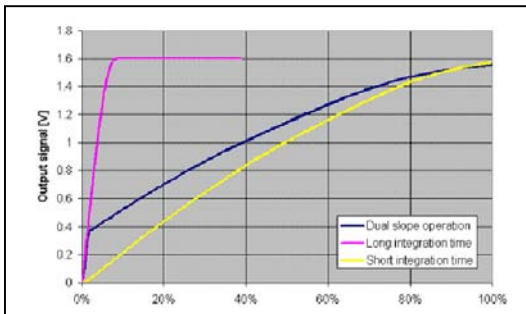
- ❑ High dynamic range sensor using multi-slope integration
- ❑ Monochrome, progressive scan, 1.3 Megapixel sensor (Color avail Jan/04)
- ❑ High speed USB2.0 (480Mbps/sec)
- ❑ 15 fps at full 1280 x 1024 resolution
- ❑ Higher frame rate at lower resolution with full sub-window control
- ❑ Global and rolling electronic shutter
- ❑ GPIOs for control of peripherals and synchronization of lighting (4in/4out)
- ❑ FCC Class B, CE Ready
- ❑ RGB Bayer video output
- ❑ Select 8 or 10-bit pixel data
- ❑ Simplified cabling - video, power and full camera control over a single USB cable
- ❑ C-Mount provided
- ❑ Direct Show compatible
- ❑ USB cameras are software compatible with all Windows Operating Systems
- ❑ Complete SDK available.

***Full customization available to meet your exact needs!***

# Specifications

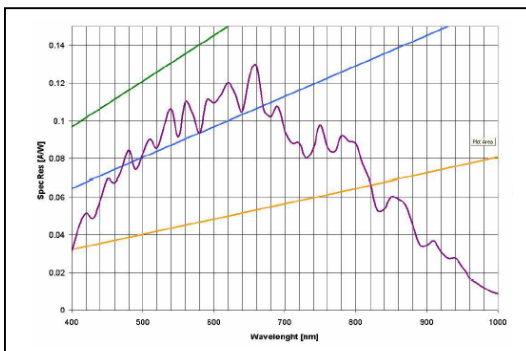
# Lu120

Image Sensor	<b>2/3" format, color or mono, 8.6mm x 6.9mm array</b>
Effective Pixels	<b>1280 x 1024, 6.7um square pixels</b>
Frame Rate	<b>15 fps at 1280x1024, 60fps at 640x480</b>
Dynamic Range	<b>56dB Rolling Shutter</b> <b>52dB Global Shutter</b> <b>~100dB in multi-slope integration mode</b>
Sensitivity	<b>Moderate</b>
White Balance	<b>Auto / Manual</b>
Dimensions (W x H x D)	<b>2.00 x 2.50 x 1.63 inches (board level)</b> <b>2.25 x 3.85 x 1.56 inches (enclosed)</b>
Mass	<b>~150g / 300g</b>
Power Requirement	<b>USB bus power, or external 6VDC, 500mA</b>
Power Consumption	<b>~2.5Watts</b>
Operating Temperature	<b>-10° C to +50° C</b>
Operating Humidity	<b>20%-80%, Non-condensing</b>
Interface Connector	<b>Standard USB</b>
Lens Mount	<b>C-Mount – (lens not included)</b>
Frame Buffer	<b>1 image buffer (optional expansion to 12 frames)</b>



### Dual Slope Integration Mode:

On chip method of extending the dynamic range by integrating a long and short frame exposure into one still image. Short-integration controls overexposure of bright conditions, while long-integration supports exposure of low-light conditions. The resulting electro-optic curve is shown in the graph here.

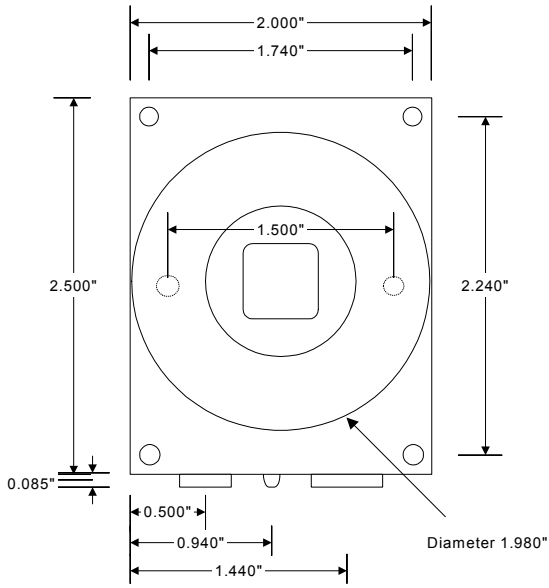


Monochrome Response Curve

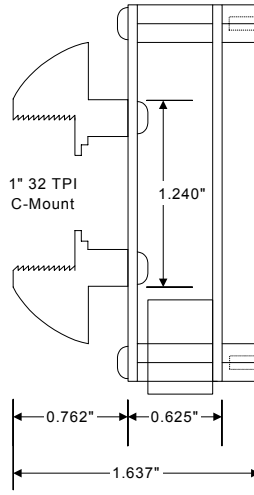
### Ordering Information

Lu120M	– Monochrome Camera Module
Lu120C	– Color Camera Module (Jan/04)
Lu125M	– Enclosed Monochrome Camera
Lu125C	– Color Camera Module (Jan/04)
LuSDK	– Software Developer's Kit

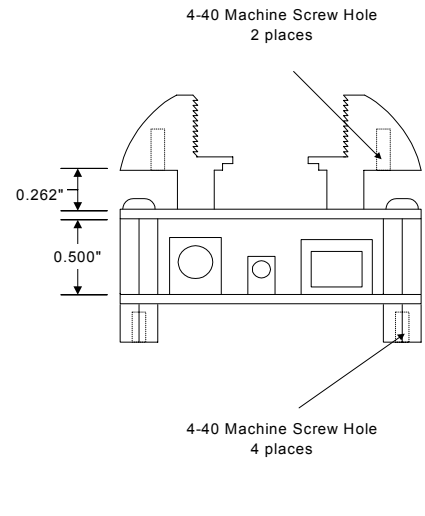
## OEM Board-Level Camera



Front



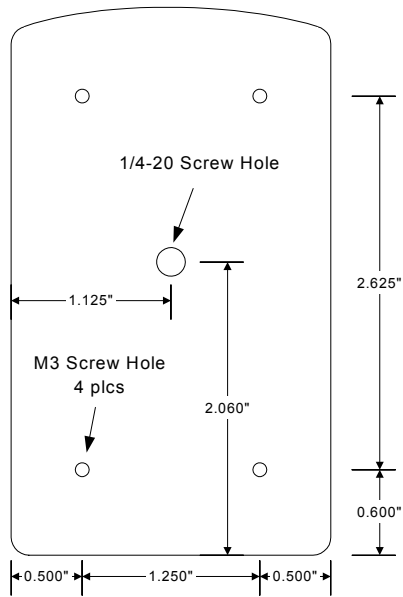
Side



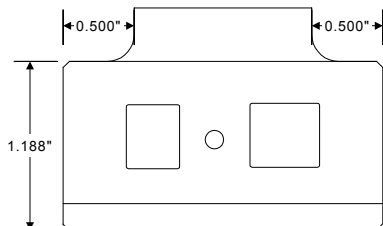
Bottom

## Enclosed Camera

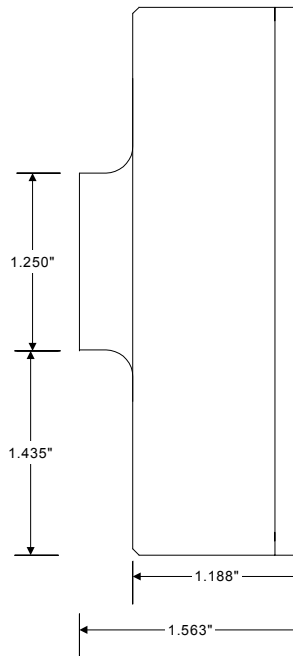
Back



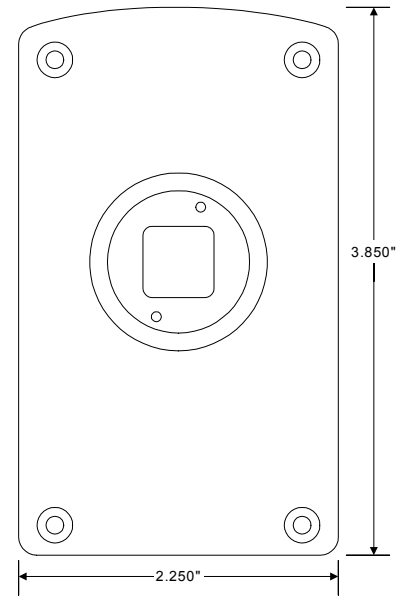
Bottom



Side



Front



\* Anodized aluminum, std color - black