

# Lg11059

High Resolution 11 Megapixel  
GigE Camera



## High Resolution CCD Sensor with Global Shutter

Lumenera's progressive scan Lg11059 digital camera is ideally suited for rugged 24/7 use. A high resolution CCD sensor, fully global electronic shutter capturing high-speed images with zero blur, and a completely integrated Canon EF lens controller (void of external cabling) position this camera an ideal solution for traffic monitoring, as well as flat panel inspection and pathology.

## High Quality Images for Difficult Lighting Environments

This camera utilizes its high quality CCD sensor to its maximum by providing either vivid color or very sensitive visible light and near IR monochromatic images. Full streaming of uncompressed video along with still image captures are easily controlled through our standard API interface or through the GigE Vision interface. Region of interest and binning modes allow the camera to run at faster frame rates (14 fps at 640 x 480 resolution) while only providing the image data you need. Image capture synchronization is achieved using either a hardware or software trigger and is complemented by 32 MB of on board memory for frame buffering to ensure image delivery.

## Plug-and-Play with No Framegrabber

The compact design of the Lg11059, measuring 76.2 x 76.2 x 82.6 mm, makes it ideal for installation in small spaces or compact enclosures. The fully locking Gigabit Ethernet cabling, power connector and digital I/O interface ensure a simple plug-and-play installation, minimizing camera clutter with only one standard cable. No framegrabber is required. Simplified I/O cabling is provided through a locking Hirose connector supporting 4 output and 3 input ports that can be automatically or manually controlled through software.

## 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 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.

## Superior Technical Assistance Center

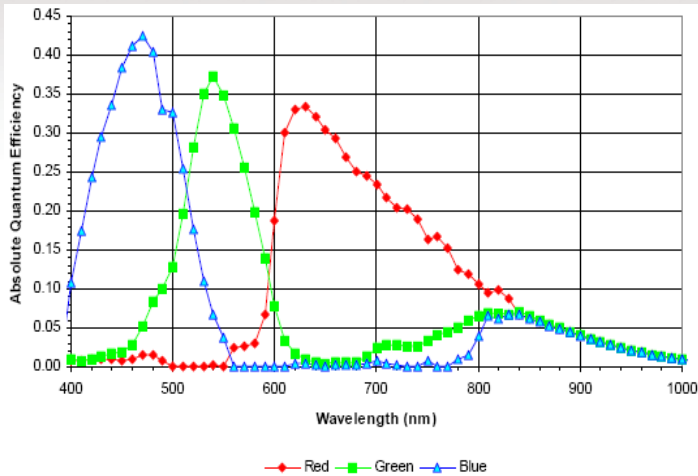
All Lumenera cameras are supported by an experienced team of technical support and imaging experts. We understand your imaging needs and are here to help you get the most out of your camera.



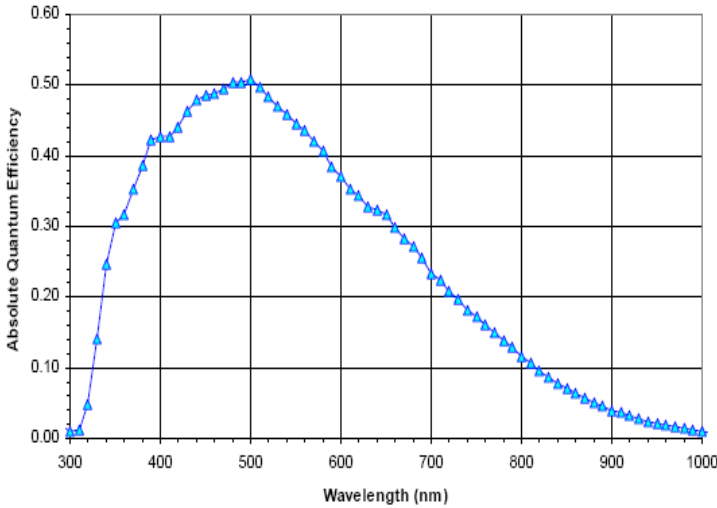
## Features

- Fully integrated Canon EF lens controller
- Small form factor measuring 76.2 x 76.2 x 82.6 mm
- High quality Kodak KAI-11002 CCD sensor
- Color or monochrome, interline transfer, progressive scan 10.7 MP CCD sensor
- GigE Vision compliant for fast data transfer (1000 Mbps)
- Locking industrial GigE port, power and Hirose GPI/O connector for control of peripherals and synchronization of lighting
- 4 output and 3 input, software configurable I/O ports
- 32 MB RAM frame buffer
- Excellent sensitivity
- Simplified cabling - video, and full camera control over a GigE network allowing for 100M cable lengths
- 8 mounting points and 2 tripod (1/4" - 20) mounts
- Binning improves sensitivity and Region of Interest (ROI) provides higher frame rates
- FCC Class B, CE Certified
- Select 8 or 14-bit pixel data
- DirectX/DirectShow and GigE Vision compatible
- Software compatible with Windows 8, 7, XP, Vista, 32 and 64-bit operating systems
- Complete SDK available
- Four (4) year warranty

Color Quantum Efficiency Curve



Monochrome Quantum Efficiency Curve



Ordering Options

|                       |   |
|-----------------------|---|
| Lg11059M              | 11 Megapixel Monochrome Enclosed Camera   |
| Lg11059C              | 11 Megapixel Color Enclosed Camera  |
| LgCAMSW-DVD           | DVD with user application software, camera device drivers and documentation (no charge accessory) |
| LuSDK                 | Software Developer's Kit (Web Download)   |
| Camera Includes       |   |
| La21224L              | 12 V DC, 2 A locking power supply   |
| Customization Options |   |
| -WOIR                 | Without IR cut filter (in optical path)   |
| -WIR                  | With IR cut filter (in optical path)  |
| -WOCG                 | Without sensor cover glass  |
| -WOML                 | Without sensor pixel micro lenses   |
| -C1                   | Higher quality CCD sensor   |
| -C0                   | Highest quality CCD sensor  |

Sensor Specifications

|                            |  |
|----------------------------|--|
| Image Sensor               | Kodak KAI-11002 , CCD, color or mono, progressive scan |
| Optical Format             | 35 mm  |
| Active Area                | 37.25 x 25.70 mm                                       |
| Pixel Size                 | 9.0 x 9.0 μm   |
| Resolution                 | 4008 x 2672 pixels                                     |
| Region of Interest Control | Any multiple of 8 x 8 pixels, 8 x 8 pixels minimum     |

Camera Specifications

|                  |  |
|------------------|--|
| Frame Rate       | 5 fps at full resolution, 14 fps at 640 x 480 (with ROI) |
| Bit Depth        | 8 or 14-bit  |
| Binning Modes    | 2 x 2  |
| Exposure Control | Manual and automatic control                             |
| Exposure Range   | 85 μs to 198 ms (video), 1 μs to 67.11 s (snapshot)      |
| Gain Control     | Manual and automatic control                             |
| Gain Range       | 1 to 30.8 x  |
| White Balance    | Manual and automatic control                             |
| Trigger Modes    | Hardware and software triggerable                        |

Camera Characteristics

|                    |                       |
|--------------------|-----------------------|
| Sensitivity        | Excellent             |
| Dynamic Range      | 66 dB                 |
| Pixel Well Depth   | 60,000 e-             |
| Quantum Efficiency | >50 % peak (absolute) |
| Read Noise         | 30 e-                 |
| Dark Current Noise | <50 mV/s at 20 °C     |

Mechanical Specifications

|                       |  |
|-----------------------|--|
| Data Interface        | GigE (1000baseT), locking Ethernet connector |
| General Purpose I/O   | Locking Hirose connector                     |
| Lens Mount            | Canon EF mount                               |
| Dimensions            | 76.2 x 76.2 x 82.6 mm                        |
| Mass                  | ~850 g                                       |
| Operating Temperature | 0 to 50 °C                                   |
| Storage Temperature   | -30 to 70 °C                                 |
| Operating Humidity    | 5 to 95 %                                    |
| Shock / Vibration     | 50 G shock, 5 G (2-200Hz) vibration          |

Camera Software

|                     |   |
|---------------------|---|
| Operating Systems   | Windows XP, Vista, 8, 7, 32 and 64-bit  |
| Software Interfaces | Windows API, .NET, DirectX, GigE Vision |

Power and Emissions

|                       |                           |
|-----------------------|---------------------------|
| Power Consumption     | ~7.2 W                    |
| Power Requirement     | 12 V DC                   |
| Emissions Compliances | FCC Class B, CE Certified |
| Hazardous Materials   | RoHS, WEEE Compliant      |
| Warranty              | Four (4) year             |

System Requirements

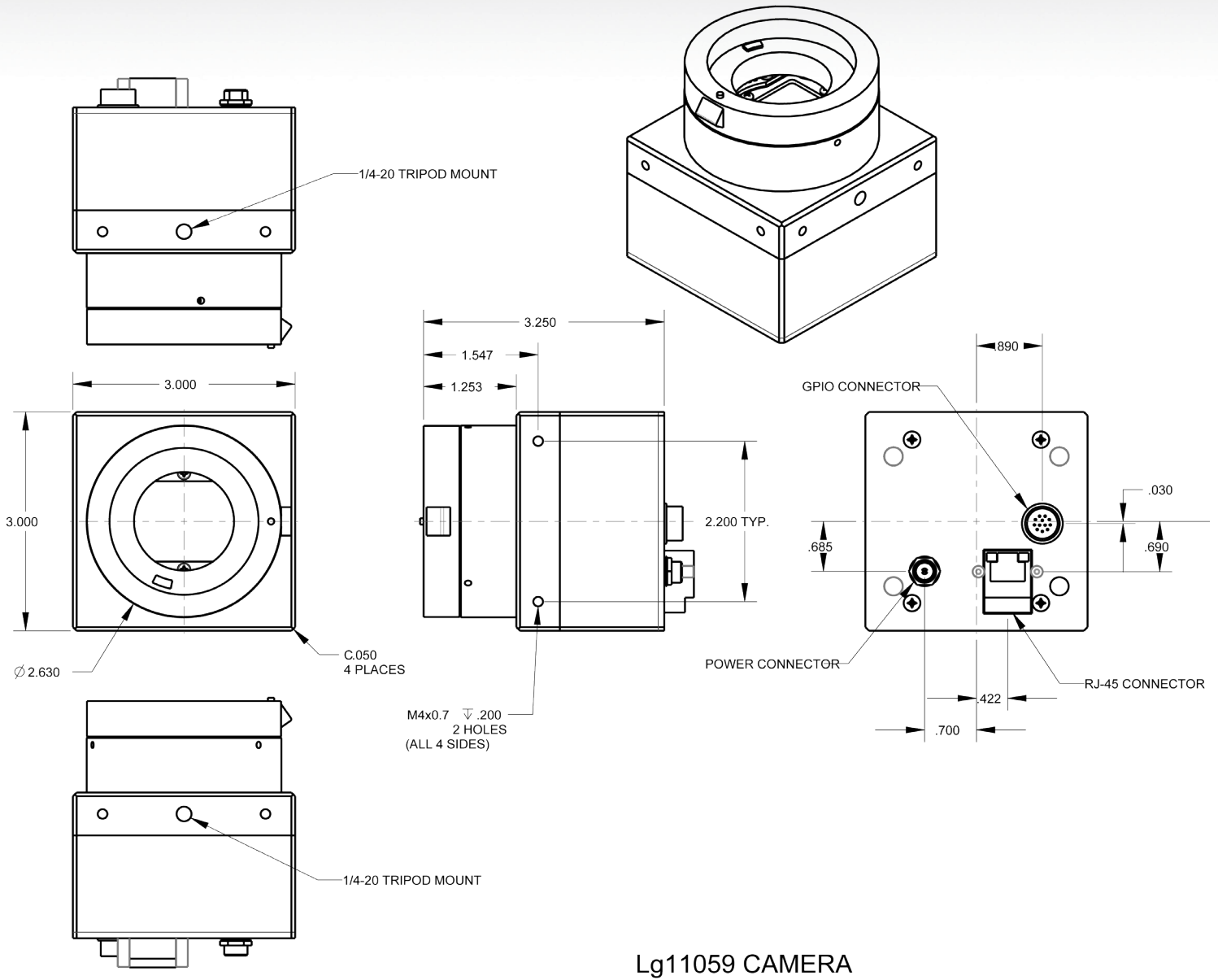
|                      |  |
|----------------------|--|
| Recommended PC Specs | <ul style="list-style-type: none"> <li>• Pentium 4, 1.3 GHz or higher</li> <li>• 512 Mb RAM</li> <li>• 60 MB hard drive free space or more</li> <li>• GigE Port</li> <li>• Windows XP, Vista or 7</li> </ul> |
|----------------------|--|

Compliance

|                       |     |
|-----------------------|-----|
| GigE Vision Compliant | yes |
|-----------------------|-----|



Mechanical Drawings



Lg11059 CAMERA

