Lt225
2.2 Megapixel High-Speed CMOS Camera with SuperSpeed USB 3.0

High Resolution CMOS Sensor with Global Shutter
Lumenera’s Lt225 enclosed digital camera is built for rugged 24/7 use. A proven high resolution 2/3” 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/Number Plate Recognition (ALPR/ANPR), high-speed inspection, light UAVs and motion control. This camera can be customized to suit OEM designs and is available in a scientific-grade.

High Quality Images at High Speed
The Lt225 was created for speed using latest the USB 3.0 technology to ensure fast image delivery even at its largest resolution. Image captures can be synchronized using either a hardware or software trigger, and are complemented by 128 MB of onboard memory that is used for frame buffering to ensure reliable image delivery.

Plug-and-Play with No Framegrabber
The compact, lightweight design of this camera, measuring 43 x 43 x 55 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 CMV2000 Rev3 CMOS 2.2 megapixel sensor with electronic global shutter
- SuperSpeed USB 3.0 interface for fast image delivery and simplified connectivity
- Compact, robust form factor measuring 43 x 43 x 55 mm with 16 mounting points and 1 tripod (1/4”-20) mount
- 170 fps at full resolution
- Color or monochrome CMOS sensor with 2/3” optical format providing a resolution of 2048 x 1088 using 5.5 µm² pixels
- Locking industrial micro USB and Hirose GPI/O connector for power as well as 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 used for frame buffering
- Simplified cabling – video, power and full camera control over a single micro USB 3.0 cable
- Region of Interest (ROI) options improve sensitivity and provide higher frame rates
- Select 8 or 12-bit pixel data
- FCC Class B, CE Certified
- DirectShow compatible
- Software compatible with Windows 10, Windows 8.1, Windows 7, Linux, 32 and 64-bit operating systems
- Complete Windows and Linux SDKs available
- Four (4) year warranty
Sensor Specifications

- Image Sensor: CMOSIS CMV2000 Rev3, color, monochrome, NIR
- Optical Format: 2/3” (recommend 1” lens)
- Imager Size: Diagonal 12.76 mm
- Pixel Size: 5.5 x 5.5 µm
- Resolution: 2048 x 1088 pixels
- Region of Interest Control: Any multiple of 8 x 8

Camera Specifications

- Frame Rate: 170 fps at full resolution
- Bit Depth: 8 or 12-bit
- Binning Modes: N/A
- Exposure Control: Manual and automatic control
- Exposure Range: 26 µs to 4000 ms
- Gain Control: Manual and automatic control
- Gain Range Analog: 1.0 to 3.2 x analog
- Gain Range Extended*: 1.0 to 33.2 x (mono), 1.0 to 8.3 x (colour)
- White Balance: Manual and automatic control
- Trigger Modes: Hardware and software triggerable

Camera Characteristics

- Sensitivity (at 550 nm): 13.7 DN/(nJ/cm²) [mono], 10.1 DN/(nJ/cm²) [color] (@ 8-bit, 1x gain)
- Dynamic Range: 56.4 dB
- Full Well Capacity: 8,600 e-
- Quantum Efficiency: 43% peak color, 59% peak monochrome
- Read Noise: 13 e-
- Dark Current Noise: 125 e-/s (@25 ºC die temp)

Mechanical Specifications

- Data Interface: USB 3.0, micro locking connector
- General Purpose I/O Locking Hirose MXR-8R-8SA(71)
- Lens Mount: C-Mount
- Dimensions: 43 x 43 x 55 mm
- Mass: 138 g
- Operating Temperature: 0 to 50 ºC
- Storage Temperature: -30 to 70 ºC
- Operating Humidity: 5 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

- Software Interfaces: DirectShow

Power and Emissions

- Power Consumption: 5 V DC @ 700 mA, ~3.5 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: Four (4) year

Ordering Options

- Lt225M: 2.2 MP Monochrome Camera (Enclosed)
- Lt225C: 2.2 MP Color Camera (Enclosed)
- Lt225M-NIR: 2.2 MP NIR Camera (Enclosed)
- LuSDK: Software Developer’s Kit (Web Download)

Customization Options

- SCI: Scientific grade
- WOIR: AR/AR glass within lens mount
- WOG: Without any glass within lens mount
- WOCG: Without any cover glass on the camera sensor

*Extended gain is a combination of analog and digital gain.
ALL DIMENSIONS DISPLAYED AS INCHES [MM]