

MicroLine ML43140

PRELIMINARY
Quality. Cooled. Cameras.

8040 x 5360 Interline Transfer CCD

4.5 μm Pixel Size

At 3.7 x 3.7 x 4.8 inches the MicroLine is a small camera with big camera capabilities. Each component of the MicroLine camera is designed and manufactured for a long life in the most demanding conditions. MicroLine download speeds are fast yet maintain the 16-bit resolution necessary to produce high quality images. MicroLine cameras can achieve up to 60°C below ambient cooling without water assist. Simply set the MicroLine cooling where you want it and the camera will do the rest, quickly and without worries.



ML43140 Shown with 65mm Shutter

Applications

| | |
|---------------------|-------------------------|
| Digital Radiography | Gel Documentation |
| Astronomy | Forensic Imaging |
| Bioluminescence | Satellite Imaging |
| Chemiluminescence | Low Light Level Imaging |

Features

Benefits

| | |
|---|--|
| Up to 12 MHz Digitization | Fast Image capture with full 16-bit resolution |
| 8040 x 5360 Array with 4.5 μm pixels | Resolves fine detail |
| Flexible binning and readout | Increases frame rate |
| Thermoelectric Cooling to 45°C Below Ambient | Excellent low-noise imaging |
| Excellent quantum efficiency | High sensitivity for fast image acquisition |
| F-mount Available | Wide variety of optical choices |
| Acquisition software included | Ease of integration with open source SDK |
| USB 2.0 interface | Industry standard connectivity; fast data transfer |



Engineering Excellence

Because Your Image Depends On It.

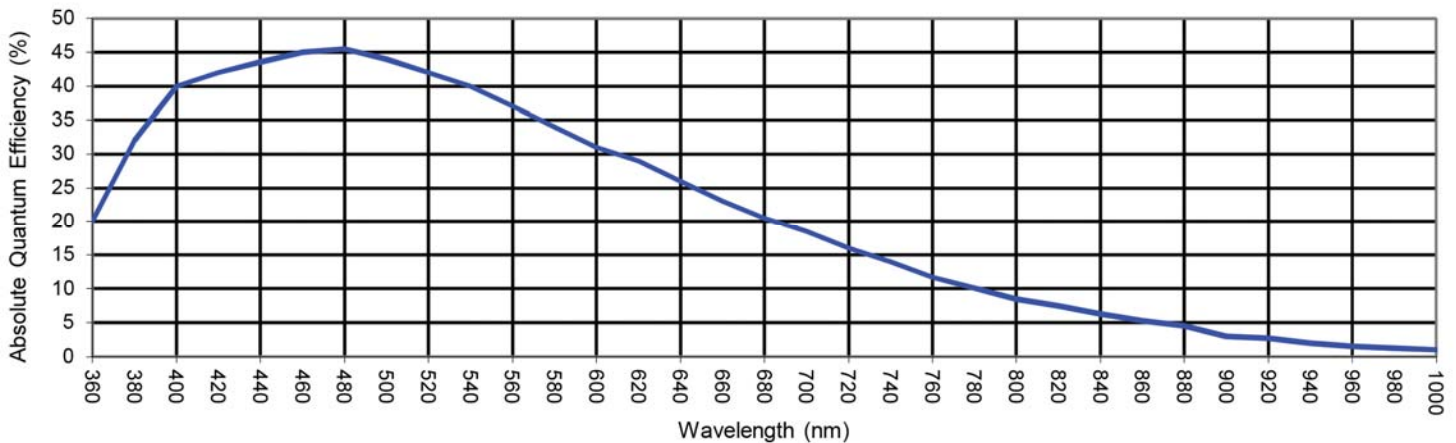
1250 Rochester St.
Lima NY 14485 · USA
585 624 3760
sales@flicamera.com
www.flicamera.com

*Due to continuous development, all specifications subject to change without notice.

Sensor Specifications (from manufacturer)

| | | | | | |
|---------------------------|--|------------------------|---------------------|--------------------------|--------|
| Sensor | On Semi KAI-43140 Interline Transfer CCD | | | | |
| Pixels | 8040 x 5360 | Sensor Size | 36.1 X 24.1 mm | Megapixels | 43 |
| Pixel Size | 4.5 x 4.5 μ m | Sensor Diagonal | 43.4 mm | Video Size (inch) | 2.7" |
| Full Well Capacity | 13000 electrons | Sensor Area | 870 mm ² | Sensor Grades | 1 or 2 |
| Anti-Blooming | 300x | | | | |
| Variants | Monochrome; Bayer RGB; Sparse Color | | | | |

Sensor Quantum Efficiency (Absolute)



Camera Performance

| | | | |
|----------------------------------|---|-------------------------------|-----------------------|
| Typical Maximum Cooling | 45°C below ambient | Dark Current (typical) | 0.002 eps at -25°C |
| Temperature Stability | 0.1°C | Cooling Method | Air (Optional liquid) |
| Digitization Speed | 4 MHz & 12 MHz (optional two channels @ 10 MHz each) | | |
| Typical System Noise | 8e- RMS @ 4 MHz; 10e- RMS @ 12 MHz | Non-Linearity | <1% |
| Focal Plane to Face Plate | 15.7mm (21mm with optional shutter) | Typical Gain | 0.8e-/ADU |
| Housing* | 3.7 X 3.7 X 4.77 inches (9.3 X 9.3 X 12.1 cm) | Weight* | 3.96 lbs (1.8 kg) |
| Lens Mounts | Optional Nikon F-mount or Canon EOS Mount | | |
| Interface | USB 2.0 | Camera Channels | 1 (optional 2) |
| Available Shutters | Optional 65 mm | | |
| External Triggering | Standard | | |
| Environment | -30°C to 45°C 10% - 90% Relative Humidity | | |
| Power | 12V (100-240V AC to 12V DC power supply included). With TEC off: <1A. TEC at 100%: 4.4A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A. *Without shutter | | |



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