

MicroLine ML4710 AM

Quality. Cooled. Cameras.

1024 x 1024 Imaging Array

13 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.

This version of the ML4710 uses a back-illuminated sensor on deep depletion silicon with an enhanced multilayer coating, giving high quantum efficiency across the visible and into the near infrared. Deep depletion silicon has substantially higher dark current than standard silicon.



Applications

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

Features

Benefits

| | |
|--|--|
| 700 kHz and 2 MHz digitization | Fast Image capture with full 16-bit resolution |
| 1024 x 1024 Array with 13 μm pixels | Resolves fine detail |
| Flexible binning and readout | Increases frame rate |
| Thermoelectric Cooling to 60°C Below Ambient | Excellent low-noise imaging |
| Excellent quantum efficiency | High sensitivity for fast image acquisition |
| Optional C-mount, Nikon F-mount or Canon EOS mount | 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.

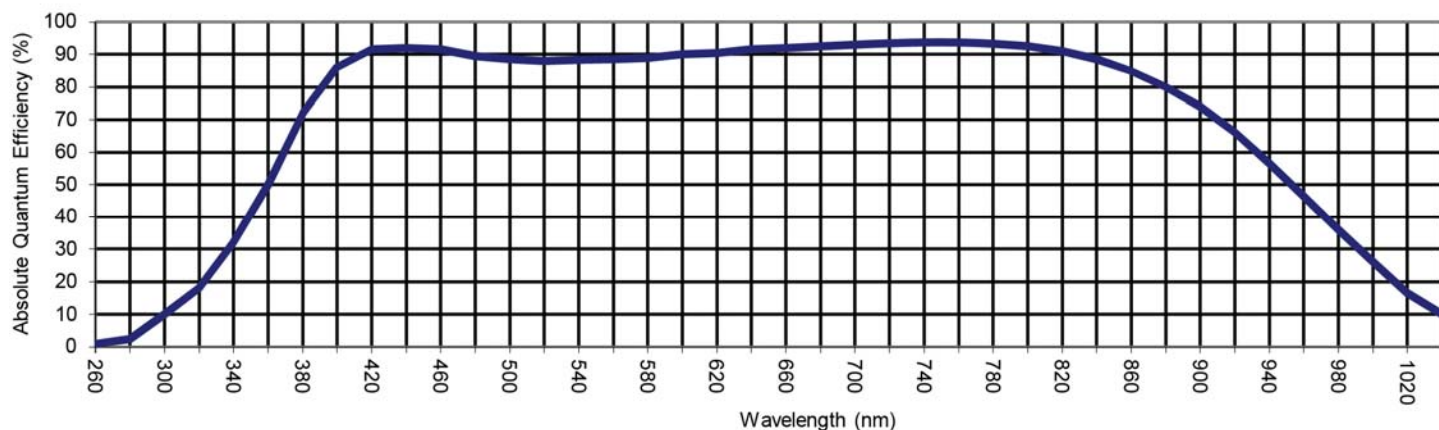
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*Due to continuous development, all specifications subject to change without notice.

Sensor Specifications (from manufacturer)

| | | | | | |
|---------------------------|---|------------------------|----------------|--------------------------|------------|
| Sensor | e2v CCD47-10-1-197 (Deep Depletion with Astro Multilayer-2 coating) | | | | |
| Pixels | 1024 x 1024 | Sensor Size | 13.3 X 13.3 mm | Megapixels | 13 μ m |
| Pixel Size | 13 μ m | Sensor Diagonal | 18.8 mm | Video Size (inch) | 1.2 |
| Full Well Capacity | 100000 electrons | CCD Variants | | | |
| Color Options | Monochrome | CCD Grades | Grade 1 | | |
| CCD Type | Back Illuminated | Anti-Blooming | None | | |

Sensor Quantum Efficiency (Absolute)



Camera Performance

| | | | |
|----------------------------------|---|-------------------------------|---|
| Typical Maximum Cooling | 60°C below ambient | Dark Current (typical) | 15 electrons/pixel/sec at -40°C |
| Temperature Stability | 0.1°C | Cooling Method | Air (Optional liquid) |
| Digitization Speed | 700 kHz, 2 MHz (up to 4 MHz available) | | |
| Typical System Noise | 11 e- RMS @ 700 kHz; 17e- at 2 MHz | Non-Linearity | <1% |
| Focal Plane to Face Plate | 15.7 mm (17.5 mm with C-Mount Flange) | Weight | 2.8 lbs (1.2 kg) |
| Typical Gain | 1.3 e-/count | Housing | 3.7 X 3.7 X 4.77 inches (9.3 X 9.3 X 12.1 cm) |
| Lens Mounts | C-mount; optional Nikon F-mount, Canon EOS mount, or Micro 4/3 mount | | |
| Interface | USB 2.0 | Camera Channels | 1 |
| Available Shutters | Standard 25 mm; optional 45 mm | | |
| External Triggering | Standard | Shutter MTBF | 1000000 |
| 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. | | |



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