

MegaPlus EC16000

16 megapixels | Interline CCD | Actively cooled



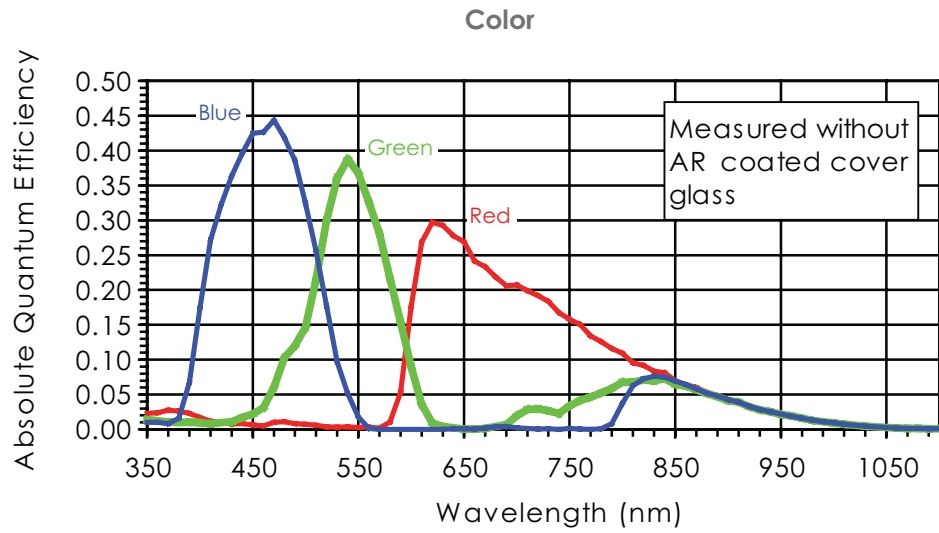
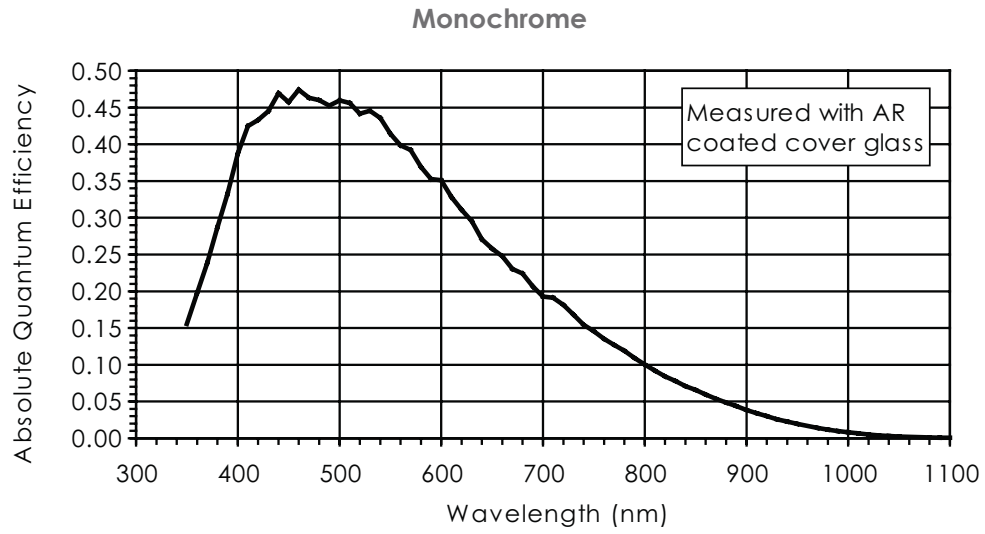
The MegaPlus EC16000 is an actively cooled, high resolution 16 megapixel digital camera. It is uniquely designed to separate and isolate the camera's primary electronics from the sensor cooling path resulting in true 12-bits per pixel at virtually any operating temperature. Using Peltier cooling, both dark noise and thermal drift are significantly reduced, making the camera the perfect solution for the most demanding scientific and industrial applications. The EC16000 is designed to cool the sensor to 5°C below ambient temperature without a fan - opening up new opportunities for customers who would not have previously considered a cooled camera due to fan vibration. For applications requiring even greater cooling, an optional fan is available providing cooling capability to ~12 °C below ambient temperature.

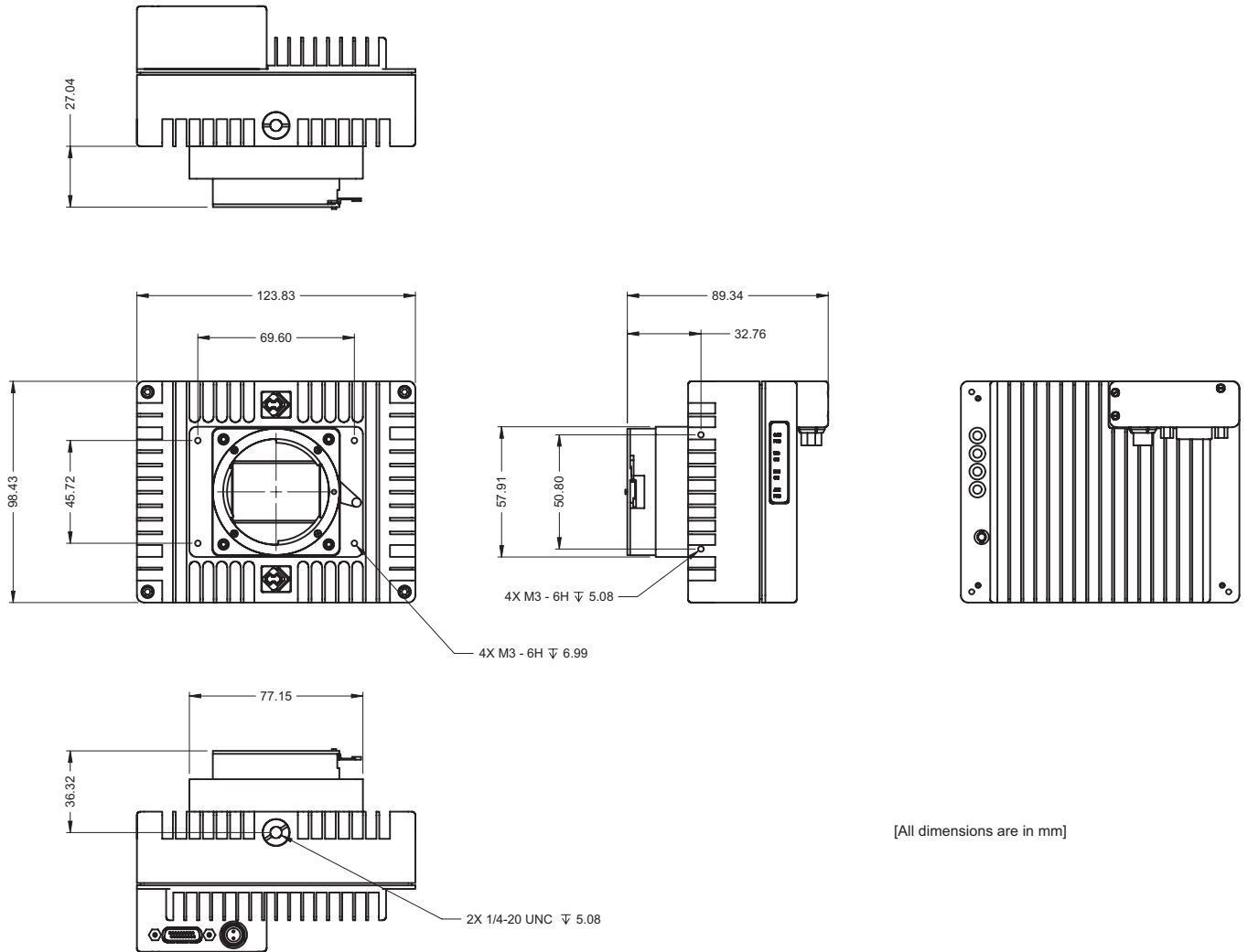
Applications: Machine Inspection & Calibration, Scientific Imaging, Document Imaging, Flat Panel Inspection

| Features | Benefits |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 16megapixel Resolution (4872 x 3248 pixels) | Resolves fine detail |
| Full 35mm Size Image sensor (36 x 24mm) | Enables large scanning areas optimized for standard optics |
| Actively Cooled Camera | Enables long integration times while minimizing dark noise; Consistent imaging performance over long periods |
| Interline Transfer Progressive Scan CCD | Eliminates camera vibration, facilitates fast triggering |
| Over 3 frames per second (fps) with CameraLink | High bandwidth continuous data interface |
| Firewire (IEEE-1394a) Interface | Seamless, plug-n-play connection to PC notebooks and desktops. No need to install PCI cards |
| Available in color or monochrome | Allows same camera architecture to be seamlessly integrated across many applications |
| 12-bits per pixel | Quantifies full range of light levels in a single image |
| Compact design | Small footprint design optimized for integration into applications where space is at a premium |

| CCD Imager | |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Imaging Device | KAI-16000, CCD, Color and Mono |
| Sensor Readout | Interline, progressive scan |
| Pixel Size | 7.4 μm x 7.4 μm |
| Resolution | 4872 x 3248, 16 megapixels |
| Imager Size (diagonal) | 43.3 mm |
| Active Area | 36 mm (h) x 24 mm (v) |
| Aspect Ratio | 3:2 |
| Sensor dynamic range | 65 dB |
| Readout Noise | 16 electrons rms |
| Shuttering | Electronic |
| Imaging Performance | |
| Output Bit Depth | 8-, 10-, or 12-bits per pixel |
| Sensor Clock Rate | 30 MHz (optional over clocked 38 MHz) |
| Controller Clock Rate | 60 MHz (over clocked 76 MHz) |
| Max. Frame Rate (CameraLink) | 3.2 fps @ 30 MHz |
| Max. Frame Rate (IEEE1394a) | 1.6 fps (monochrome) |
| Max. Frame Rate w/ 2x2 Binning | 5.4 fps @ 30 MHz, 6.8 fps @38 MHz |
| Max. Frame Rate w/ 3x3 Binning | 7.5 fps @ 30 MHz, 9.6 fps@ 38 MHz |
| Max. Frame Rate w/ 4x4 Binning | 9 fps @ 30 MHz, 11.7 fps@ 38 MHz |
| Exposure Settings | |
| Max. Integration Time | 10 minutes |
| Gain Settings | 0-36 dB |
| Binning | Yes |
| Anti-blooming | Yes |
| Trigger Modes | Edge, Level, Double exposure, Periodic interval (self), Overlap trigger modes |
| Cooling Performance | |
| Cooling Method | Peltier (TE: Thermo Electric) |
| Standard Cooling | ~5 °C below ambient (0 - 40 °C) |
| Cooling With Fan Option | ~12 °C below ambient (0 - 40 °C) |
| Dark Current Doubling Temperature | 7 °C |
| Mechanical Description | |
| Lens Mount | F-mount (Other mounts available upon request) |
| Camera Head Cable | 2m, 5m, 7m |
| Camera Head Dimensions (F-mount) | 123.83 mm x 89.34 mm x 98.43 mm (LxDxH) |
| Controller Dimensions | 160.7 mm x 158.3 mm x 50.8 mm (LxDxH) multi-head controller 158.8 mm x 152 mm x 38.1 mm (LxDxH) single-head controller |
| Camera Head Weight | 1004 grams |
| Controller Weight | 1140 grams multi-head controller 992 grams single-head controller |
| Environmental | |
| Operating Temperature | 0 - 40 °C, non-condensing |
| Vibration | 3G, sinusoidal from 10 to 500 Hz |
| Shock | 5G |
| Power Consumption (Single Head with Controller) | 15 watts |
| Certification | FCC Part 15, Class A and CE |
| Input/Output | |
| CameraLink | Base, Medium, Dual Base |
| Firewire | 1394a |
| Serial | RS232 |
| Trigger In | BNC, TTL |
| Trigger Out | BNC, TTL |
| Ethernet | 10/100/1000 Base-T |

Note: Specifications are subject to change.





www.piaction.com

email: moreinfo@piaction.com
USA +1.877.4 PIACTION | Benelux +31 (347) 324989
France +33 (1) 60.86.03.65 | Germany +49 (0) 89.660.779.3
Japan +81.3.5639.2741 | UK +44 (0) 28.38310171
Asia/Pacific +65.6293.3130