

Performance | Flexibility | GigE Vision



The newly designed MegaPlus controller (Single-head) houses the camera calibration and image processing electronics, and provides data interface to the host PC. This controller has the capability to connect to the host PC via high speed GigE Vision data interface. By housing the heat generating image processing and control electronics separate and away from the sensor, the controller helps maintain lower sensor temperature. Consequently, the MegaPlus cameras achieve lower noise and higher dynamic range than comparable cameras using similar sensors. The controller also provides real time intelligence for each camera head such as: pixel defect mapping, flat field correction, gamma control, color space conversion and bit windowing.

Note: A separate controller is available with CameraLink interface. For applications requiring operation of up to four camera heads, a multi-head controller (Firewire and CameraLink) is available.

About MegaPlus cameras:

MegaPlus cameras are the reference standard for high performance scientific and industrial imaging applications. The cameras use interline and full frame CCD sensors with resolutions up to 16 megapixels.

Features	Benefits
GigE Vision interface	Standard Plug-n-play interface. No expensive frame grabber required.
Separate housing for image processing electronics	Heat generating electronics are kept away from the sensor leading to lower sensor operating temperature. As a result, every camera delivers lower noise and larger dynamic range.
The latest design	Powerful FPGA and processor allows real time image processing and future flexibility
On-board Image Processing	Flat field normalization, defect correction, color space conversion, gamma control for real time high quality imaging
High bandwidth connection to the camera head	Cameras are operated at the highest possible frame rates
Field upgradeable firmware	Easily expand controller capabilities with new/updated features. Easy customization for OEM requirements.
User programmable	User can easily apply custom optical corrections such as flat field normalization in real time
8-, 10-, or 12-bit output	Programmable bit windowing to maximize bit depth or to minimize file save

Comparison between Single- and Multi-head MegaPlus controllers

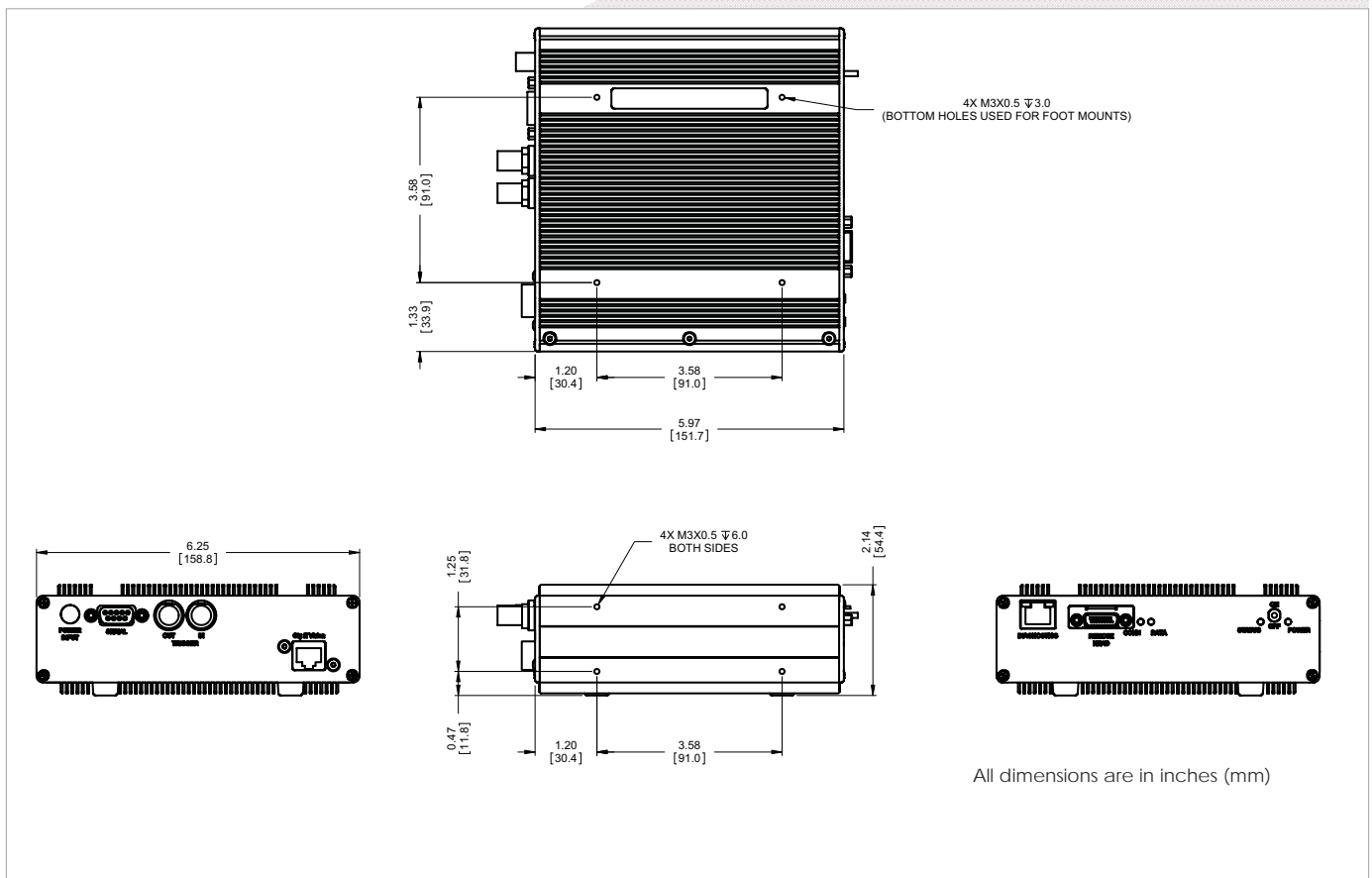
	Single-Head Controller (GigE Vision)	Single-Head Controller (CameraLink)	Multi-Head Controller (Firewire and CameraLink)
GigE Vision	Yes	No	No
CameraLink	No	Yes (Base, Dual Base)	Yes (Base, Medium, Dual Base)
Firewire	No	No	Yes
DVI Video Output	No	No	Yes
Trigger In/Out	Yes	Yes	Yes
RS 232 Port	Yes	Yes	Yes
Control One Head	Yes	Yes	Yes
Control Multiple Heads	No	No	Yes
Size	158.8 mm x 152 mm x 54.44 mm	158.8 mm x 152 mm x 38.1 mm	160.7 mm x 158.3 mm x 50.8 mm
Weight	1124 grams	992 grams	1140 grams

MegaPlus Controller (Single-head - GigE Vision) Specifications

Input/Output	
Interface	100/1000 Base (GigE Vision Compliant)
Serial	RS232
Trigger In	BNC, TTL
Trigger Out	BNC, TTL
Diagnostics	10/100/1000 Base-T (Diagnostics and Firmware upgrade only)
Imaging	
Camera compatibility	MegaPlus cameras up to 16 megapixel resolution, monochrome or color, interline or full frame
Real time Image Processing	Flat field normalization, Color space conversion, gamma control, defect correction
Clock rate	Up to 76MHz
Mechanical Description	
Camera Head Cable	0.5m, 2m, 5m, 7m
Dimensions	158.8 mm x 152 mm x 54.4 mm (LxDxH)
Weight	1124 grams
Environmental	
Operating Temperature	0 - 40 °C, non-condensing
Vibration	3G, sinusoidal from 10 to 500 Hz
Shock	5G
Power input	12V, 3A (max.)
Power Consumption (Single-head with Controller)	15 watts
Certification	FCC Part 15, Class A and CE

Note: Specifications are subject to change.

MegaPlus Controller (Single-head - GigE Vision) Drawing



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