



Matrox GatorEye >>

GigE Vision® system for image capture, processing, display and I/O



Key features

IP67 rated housing

PoE capable

12-24 volt operation

VGA to 2 Mpixel CCD sensors

monochrome and color

opto-coupled trigger and strobe

8 GPIOs with rotary encoder support

controlled current source for powering LED illuminators directly

laser line extraction for 3D scanning

royalty-free use of Matrox Imaging Library (MIL) driver for GigE Vision®

Designed for harsh industrial environments

The Matrox GatorEye IP67-rated GigE Vision® industrial camera family is designed for use in damp and dusty environments such as glass bottle manufacturing, or environments where the processing equipment is subject to frequent wash down such as food and beverage plants. The Matrox GatorEye is fully integrated, eliminating the need to separately source a sealed camera housing. Moreover, the housing provides easy access to the lens, avoiding the hassle of having to remove the whole camera from a sealed housing to adjust the lens.

Flexible power options

The Matrox GatorEye camera can operate on a separate 12 to 24 Volt input, the latter the most typically found in electrical cabinets on plant floors. Cabling is further simplified by making use of a camera's Power-over-Ethernet (PoE) capability, which enables power and data transmission over a single cable.

Versatile Connectivity

The Matrox GatorEye offers numerous I/Os for controlling all aspects of image capture. An opto-isolated trigger input with associated debouncing circuitry enables to directly synchronize image capture with external events. A strobe output enables the control of scene illuminators. A controlled current source output is also provided for directly driving a LED illuminator, eliminating the need for a separate controller, which reduces costs and simplifies integration. In addition, the Matrox GatorEye offers eight GPIOs for directly interacting with other automation devices including a rotary encoder.

3D capability

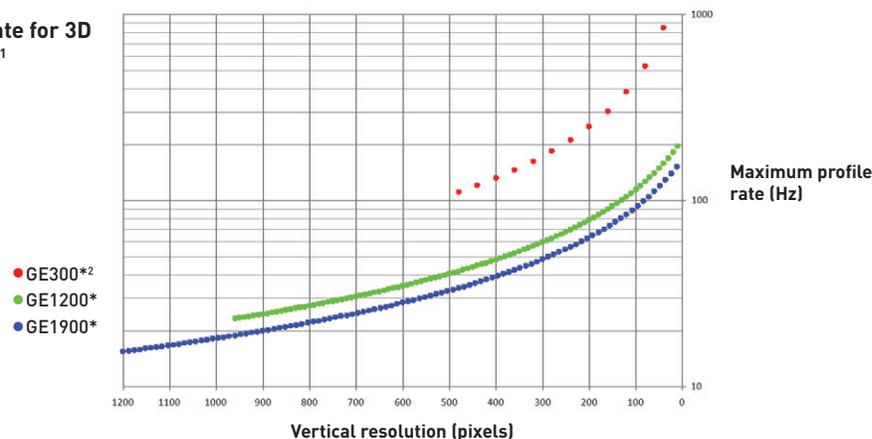
For triangulation-based 3D digitizing applications, the Matrox GatorEye extracts the laser line in an image to sub-pixel accuracy and produces the corresponding positional depth/height array. Only the resulting array is transmitted, which lightens the load on the Gigabit Ethernet link and PC. The PC can then focus on other tasks, including 3D measurement and analysis.



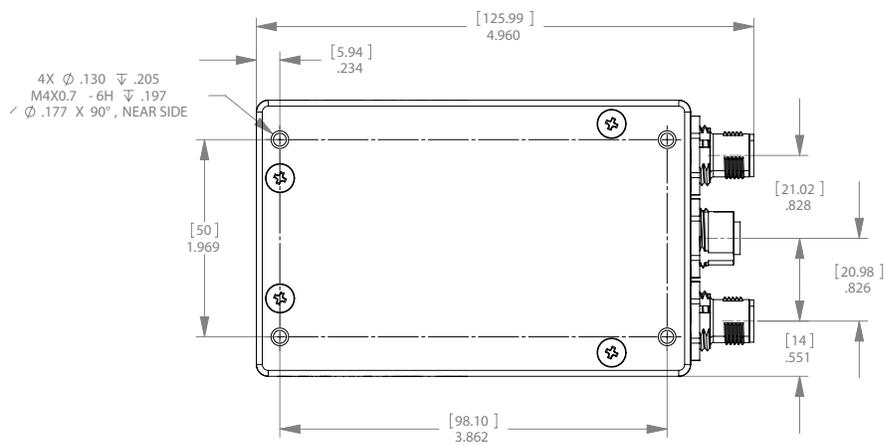
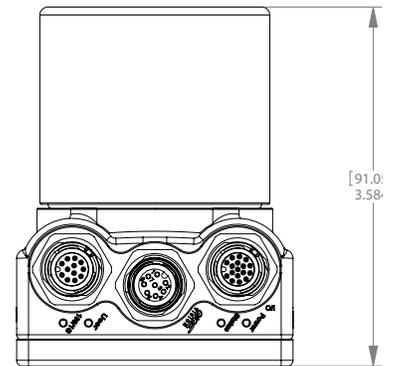
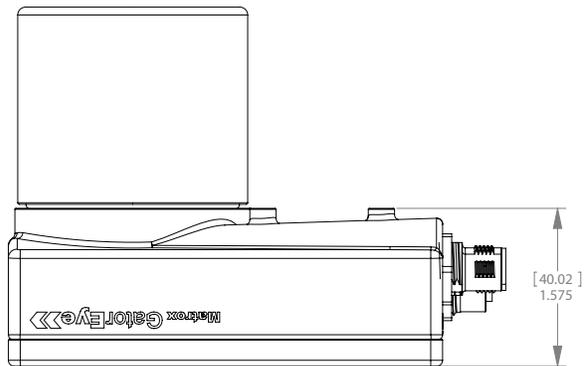
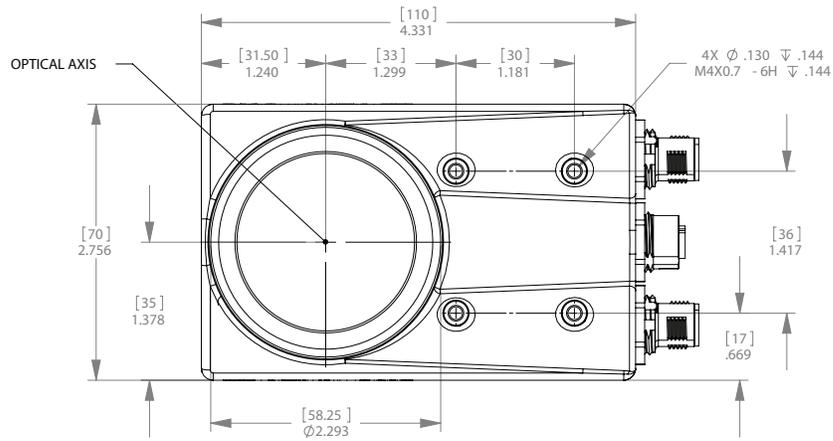
Specifications

Sensor board		GE300*	GE300C*	GE1200*	GE1200C*	GE1900*	GE1900C*
CCD sensor	Geometry	diagonal 6 mm [1/3"-type]	diagonal 6 mm [1/3"-type]	diagonal 6 mm [1/3"-type]	diagonal 6 mm [1/3"-type]	diagonal 8.9 mm [1/1.8"-type]	diagonal 8.9 mm [1/1.8"-type]
	Format	monochrome	color	monochrome	color	monochrome	color
	Make and model	Kodak KAI-0340S	Kodak KAI-0340SCM	Sony ICX445AL	Sony ICX445AQ	Sony ICX274AL	Sony ICX274AQ
Effective resolution (H x V)		640 x 480	640 x 480	1280 x 960	1280 x 960	1600 x 1200	1600 x 1200
Frame rate		110 fps	110 fps	22.5 fps	22.5 fps	15 fps	15 fps
Pixel size (H x V)		7.4 μm x 7.4 μm	7.4 μm x 7.4 μm	3.75 μm x 3.75 μm	3.75 μm x 3.75 μm	4.4 μm x 4.4 μm	4.4 μm x 4.4 μm
Gain range		0 to 36 dB	0 to 36 dB	0 to 36 dB	0 to 36 dB	0 to 36 dB	0 to 36 dB
Shutter speeds		34 μs to 1.19 s	34 μs to 1.19 s	58 μs to 2.91 s	58 μs to 2.91 s	88 μs to 3.5 s	88 μs to 3.5 s
External trigger latency		1.1 μs	1.1 μs	1.4 μs	1.4 μs	7.2 μs	7.2 μs
Ext. trigger to output strobe delay		1.1 μs	1.1 μs	1.4 μs	1.4 μs	7.2 μs	7.2 μs
I/Os							
Network interface		100/1000 Mbit Ethernet					
Digital I/Os		4 opto-coupled inputs (with support for a rotary encoder), 4 outputs (including a strobe output), 1 opto-coupled trigger					
Current-controlled		0-500 mA in 255 steps for LED illuminators					
Mechanical, electrical and environmental information							
Dimensions		refer to Figure					
Lens type		C-mount					
Connectors		M12-8 pins for Ethernet, M12-17 pins for power and digital I/Os					
Weight		500 g (17.6 oz.)					
Power requirements		12-24 Volts DC or PoE					
Power consumption		250 mA @ 24 VDC or 6 W (typical)					
Operating temperature		0 °C to 50 °C (32 °F to 122 °F)					
Ventilation requirements		natural convection					
Certifications		GigE Vision®, GenICam (compliant), FCC class A, CE class A, RoHS-compliant, IP67 enclosure (IEC 60529-dust tight and protected against temporary immersion), EN 60721-3-3 Category 3M8 (operating vibration up to 5g and shock up to 25g)					

Profile rate for 3D scanning¹



Specifications



Ordering Information

Hardware

Part number & Description

GE300*	Matrox GatorEye camera with 640x480 @ 110fps 1/3" monochrome CCD.
GE300C*	Same as above but with color CCD.
GE1200*	Matrox GatorEye camera with 1280x960 @ 22fps 1/3" monochrome CCD.
GE1200C*	Same as above but with color CCD.
GE1900*	Matrox GatorEye camera with 1600x1200 @ 15fps 1/1.8" monochrome CCD.
GE1900C*	Same as above but with color CCD.
GT-CBL-PWR/3*	9.8' or 3m cable for Matrox GatorEye to connect power and GPIOs. M12 to open end.
GT-CBL-ETH/5*	16.4' or 5m Ethernet cable for Matrox GatorEye. M12 to RJ45 plug.
BREAKOUT-BOX*	DIN-rail mountable breakout box for easy con- nection of GPIOs, trigger, strobe and power to Matrox GatorEye. Includes M12 to DB25 cable.

Endnotes:

1. Chart also applicable for 2D partial scanning frame rates.
2. Only as of upcoming new version.

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