Matrox **Iris GT** ≫

Powerful, programmable smart camera.

Key features

efficient Intel® Atom® (Z530) embedded processor

pre-installed with Microsoft® Windows® Embedded CE or XP Embedded (XPe)

programmed using Microsoft® Visual Studio® and Matrox Imaging Library (MIL)

VGA to 5 Mpixel monochrome or color CCD sensor

Opto-coupled trigger input and strobe output

VGA output

Gigabit Ethernet and USB connectivity

8 GPIOs and RS-232 serial port

controlled current source for powering LED illuminators directly

rugged construction with IP67-rated housing and M12 connectors

A PC-like smart camera

Matrox Iris GT combines the integration of a smart camera with the programmability of a PC-based machine vision system. An Intel® Atom® processor, choice of Microsoft® Windows® Embedded CE or XP Embedded operating systems, and keyboard, video and mouse (KVM) support, enable the Matrox Iris GT to provide a PC-like environment for deploying fully custom applications.

A choice of monochrome or color CCD sensors, combined with an efficient CPU, allows the Matrox Iris GT to tackle a variety of machine vision applications. Gigabit Ethernet, USB and RS-232 connectivity, as well as GPIOs, give the Matrox Iris GT the ability to interface with automation equipment and enterprise systems. An IP67-rated housing and M12 connectors make the Matrox Iris GT perfectly suited for harsh industrial environments. A DIN-mountable breakout box is available separately to easily connect the Matrox Iris GT to electrical panels.

Windows® Embedded

The Matrox Iris GT comes pre-installed with either Microsoft® Windows® Embedded CE or XP Embedded®. Windows® Embedded CE delivers real-time performance in a smaller memory footprint and is programmed using a subset of the Windows® API. The Matrox Iris GT running Windows® Embedded CE includes support for the EtherNet/IP™[1] and MODBUS® industrial communication protocols. Windows® XP Embedded on the other hand, is a pared down version of Windows® XP Professional with extended availability and support. For both operating systems, application development is cross-platform (i.e., PC linked to smart camera) and is done using the familiar Microsoft® Visual Studio® integrated development environment.
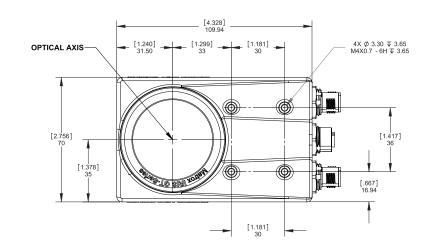
Matrox Imaging Library

Matrox Iris GT is supported by the Matrox Imaging Library (MIL), a comprehensive collection of software tools for developing machine vision appli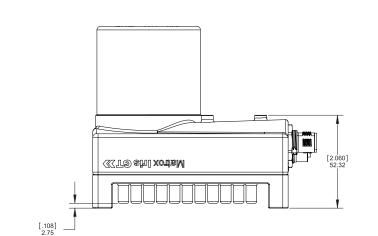cations. MIL features interactive software and programming functions for image capture, processing, analysis, annotation, display and archiving. These tools are designed to enhance productivity, thereby reducing the time and effort required to bring your solution to market. Refer to the MIL datasheet for more information.
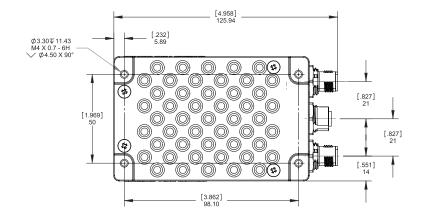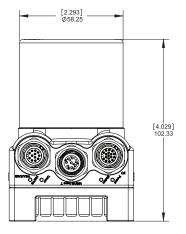
MATROX
IMAGING

Specifications

		GT300/M* GT300/X*	GT300C/M* GT300C/X*	GT1200/M* GT1200/X*	GT1200C/M* GT1200C/X*	GT1900/M* GT1900/X*	GT1900C/M* GT1900C/X*	GT5000/M* GT5000/X*
Sensor								
CCD sensor[2]	Geometry	diagonal 6 mm (1/3"-type)		diagonal 6 mm (1/3"-type)		diagonal 8.9 mm (1/1.8"-type)		diagonal 11 mm (2/3"-type)
	Format	monochrome	color	monochrome	color	monochrome	color	monochrome
	Make and model	Kodak KAI-0340S	Kodak KAI-0340SCM	Sony ICX445AL	Sony ICX445AQ	Sony ICX274AL	Sony ICX274AQ	Sony ICX625AL
Effective resolution (H x V)		640 x 480		1280 x 960		1600 x 1200		2448 x 2050
Frame rate		110 fps		22.5 fps		15 fps		15 fps
Pixel size (H x V)		7.4 μm x 7.4 μm		3.75 μm x 3.75 μm		4.4 μm x 4.4 μm		3.45 μm x 3.45 μm
Gain range		0 to 36 dB		0 to 36 dB		0 to 36 dB		0 to 36 dB
Shutter speeds		34 μs to 1.19 s		58 μs to 2.91 s		88 μs to 3.5 s		58 μs to 2.15 s
External trigger latency		1.1 μs		1.4 μs		7.2 μs		TB
Ext. trigger to output strobe delay		1.1 μs		1.4 μs		7.2 μs		TB
Processing								
CPU		1.6 GHz Intel® Atom® (Z530)						
Volatile memory		512 MB DDR2						
Non-volatile memory		2GB flash disk						
I/Os								
Network interface		10/100/1000 Mbit Ethernet						
UI interface		VGA, USB (keyboard & mouse)						
Serial interface		RS-232						
Digital I/Os		4 opto-coupled inputs, 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 on page 3						
Lens type		C-mount						
Connectors		M12-8 pins for Ethernet, M12-17 pins for power, RS-232 and digital I/Os, M12-12 for VGA and USB ports						
Weight		0.7 kg or 1.5 lbs						
Power consumption		425 mA @ 24VDC or 10 W (typical)						
Operating temperature		0 °C to 50 °C (32 °F to 122 °F)						
Ventilation requirements		natural convection						
Certifications		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)						
Software environment								
/M models	Operating system	Microsoft® Windows® Embedded CE 6.0 (display-based configuration)						
	PC development tools	Microsoft® Visual Studio 2005® (with SP1) or 2008, Smart Device Extention and Matrox Imaging Library (MIL) for Windows® CE.NET						
/X models	Operating system	Microsoft® Windows® XP Embedded (XPe) with SP3						
	PC development tools	Microsoft® Visual Studio 2005® (with SP1) or 2008 and Matrox Imaging Library (MIL) for Windows®						

OPTICAL AXIS

[4.328]
109.94

[1.240]
31.50

[1.299]
33

[1.181]
30

4X Ø 3.30 ⤵ 3.65
M4X0.7 - 6H ⤵ 3.65

[2.756]
70

[1.417]
36

[1.378]
35

[.667]
16.94

[1.181]
30

Matrox Iris GT Series

[2.293]
Ø58.25

[4.029]
102.33

[2.060]
52.32

Matrox Iris GT

[.108]
2.75

[4.958]
125.94

[.232]
5.89

Ø 3.30 ⤵ 11.43
M4 X 0.7 - 6H
⩗ Ø 4.50 X 90°

[1.969]
50

[.827]
21

[.827]
21

[.551]
14

[3.862]
98.10

Ordering Information

Hardware	
Part number	**Description**
GT300/X*	Matrox Iris GT smart camera with monochrome 640x480 @ 110fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT300C/X*	Matrox Iris GT smart camera with color 640x480 @ 110fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT1200/X*	Matrox Iris GT smart camera with monochrome 1280x960 @ 22fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT1200C/X*	Matrox Iris GT smart camera with color 1280x960 @ 22fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT1900/X*	Matrox Iris GT smart camera with monochrome 1600x1200 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT1900C/X*	Matrox Iris GT smart camera with color 1600x1200 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT5000/X*	Matrox Iris GT smart camera with monochrome 2448 x 2050 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® XPe.
GT-STARTER-KIT*	Matrox Iris GT starter kit. Includes power supply, 12mm C-mount lens, Ethernet cable, power cable , VGA/USB cable and breakout board for digital I/Os and RS232.
GT-CBL-PWR/3*	9.8' or 3m cable for Matrox Iris GT to connect power and GPIOs. M12 to open end.
GT-CBL-ETH/5*	16.4' or 5m Ethernet cable for Matrox Iris GT. M12 to RJ45 plug.
GT-CBL-VGAUSB*	3.2' or 1m cable for Iris GT to connect VGA and USB. M12 to HD-15 and USB socket.
GT-CBL-PWRDB25*	9.8' or 3m cable for Iris GT to connect to third-party terminal blocks. M12 to DB25.
BREAKOUT-BOX*	Breakout box for GPIOs, trigger, strobe, RS232 and power input for Matrox Iris GT. Includes M12 to DB25 cable.

Hardware	
Part number	**Description**
GT300/M*	Matrox Iris GT smart camera with monochrome 640x480 @ 110fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT300C/M*	Matrox Iris GT smart camera with color 640x480 @ 110fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT1200/M*	Matrox Iris GT smart camera with monochrome 1280x960 @ 22fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT1200C/M*	Matrox Iris GT smart camera with color 1280x960 @ 22fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT1900/M*	Matrox Iris GT smart camera with monochrome 1600x1200 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT1900C/M*	Matrox Iris GT smart camera with color 1600x1200 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.
GT5000/M*	Matrox Iris GT smart camera with monochrome 2448 x 2050 @ 15fps CCD sensor, 1.6 GHz Atom CPU, 512MB DRAM, 2GB flash disk and Windows® Embedded CE 6.0.

Software
Refer to MIL datasheet.
Contact Matrox Imaging or your local sales representative for more information.

End note:
1. Certification pending.
2. Interline transfer progressive scan with square pixels.

For more information, please call: 1-800-804-6243 (toll free in North America) or (514) 822-6020
or e-mail: imaging.info@matrox.com or http://www.matrox.com/imaging

matrox®