Matrox **4Sight GPm** ≫

Fanless industrial imaging computer

Benefits

Reduce service stoppages with a fanless design

Inspect multiple sites through the support for four GigE Vision® and four USB3 Vision™ cameras

Simplify cabling for GigE Vision® installations using Power-over-Ethernet (PoE) enabled ports

Tackle typical vision workloads with a mobile-class embedded 3rd generation Intel® Core™ processor

Connect separately to the factory floor and enterprise networks via two more Gigabit Ethernet ports

Synchronize with other equipment using the integrated digital I/Os and RS232/RS485 ports

Drive up to two operator displays

Install in space-limited hostile environments with a small footprint ruggedized casing

Run applications in a familiar, reliable and customizable environment using the provided Microsoft® Windows® Embedded Standard 7[1]

Solve applications rather than develop underlying tools by leveraging standard Microsoft® development tools and Matrox Imaging Library (MIL)[2]

Employ for the long run with assurance as a result of a managed extended lifecycle

Machine vision for the factory floor

Matrox 4Sight GPm is an industrial computer built for machine vision on the factory floor. A fanless design with multiple ports for GigE Vision® and USB3 Vision® cameras make the Matrox 4Sight GPm right at home in any production facility whether to keep an eye on a single line or many lines. The Matrox 4Sight GPm also comes from a vendor with a proven track record in delivering machine vision hardware and software for 20 years.

Multiple ports with power for cameras

Matrox 4Sight GPm is equipped with four Gigabit Ethernet and four SuperSpeed USB ports for connecting to the full range of available GigE Vision® and USB3 Vision® cameras. The Gigabit Ethernet ports support Power-over-Ethernet (PoE) to further simplify cabling and thus reduce costs when opting for suitable GigE Vision® cameras. Powered by a mobile-class embedded 3rd generation Intel® Core® processor, Matrox 4Sight GPm has what it takes to cost-effectively handle typical multi-camera inspections.

I/O for factory and enterprise

Matrox 4Sight GPm also provides the necessary I/O connectivity for interfacing to other industrial equipment and communicating with enterprise systems. Discrete digital I/Os and RS232/RS485 ports support the connection to simple and legacy automation devices, while two additional Gigabit Ethernet ports provide independent connections to the industrial and enterprise networks.

Industrial-strength design and longevity

The Matrox 4Sight GPm's fanless design reduces physical maintenance by eliminating the need to clean or replace an air filter, or replace a worn out fan. A rugged small-footprint casing and wide ambient operational temperature range allows the 4Sight GPm to be mounted either horizontally or vertically in hostile space-limited locations. Moreover, careful component selections secure the long term availability of the Matrox 4Sight GPm.
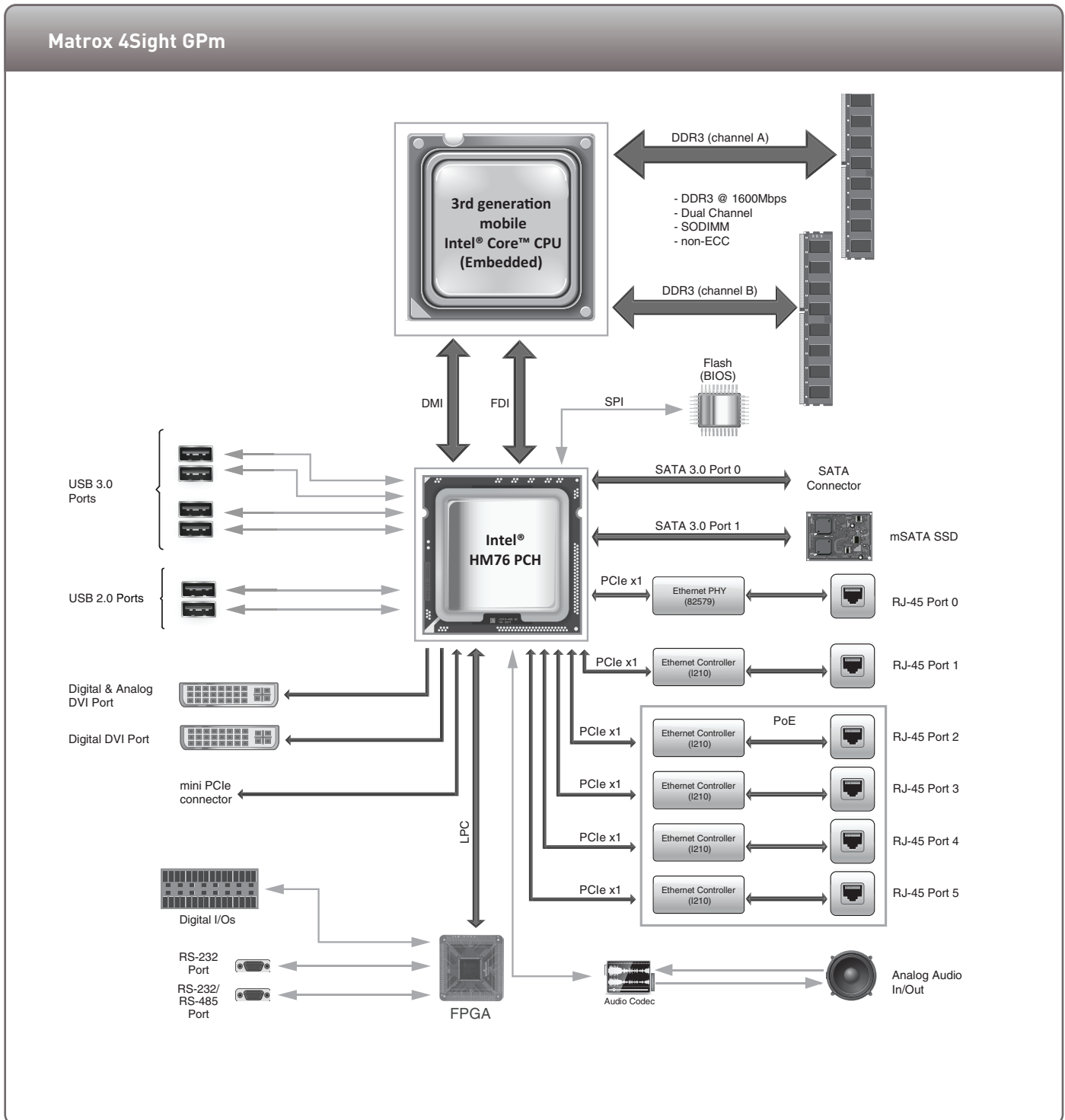
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Software Environment

Microsoft® Windows® Embedded Standard 7[1]

Matrox 4Sight GPm comes with Microsoft® Windows® Embedded Standard (WES) 7, which provides the familiarity, performance and reliability of Windows® 7, along with embedded features like the Enhanced Write Filter (EWF) to prevent corruptions caused by unanticipated power downs. The unit is pre-loaded with the 64-bit WES 7 but includes both 32-bit and 64-bit WES 7 recovery images. The Matrox 4Sight GP can also run other editions of Windows® 7 and 8.

Field-proven application development software

Matrox 4Sight GPm is supported by the Matrox Imaging Library (MIL)[2], a comprehensive collection of software tools for developing machine vision applications. MIL features 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.
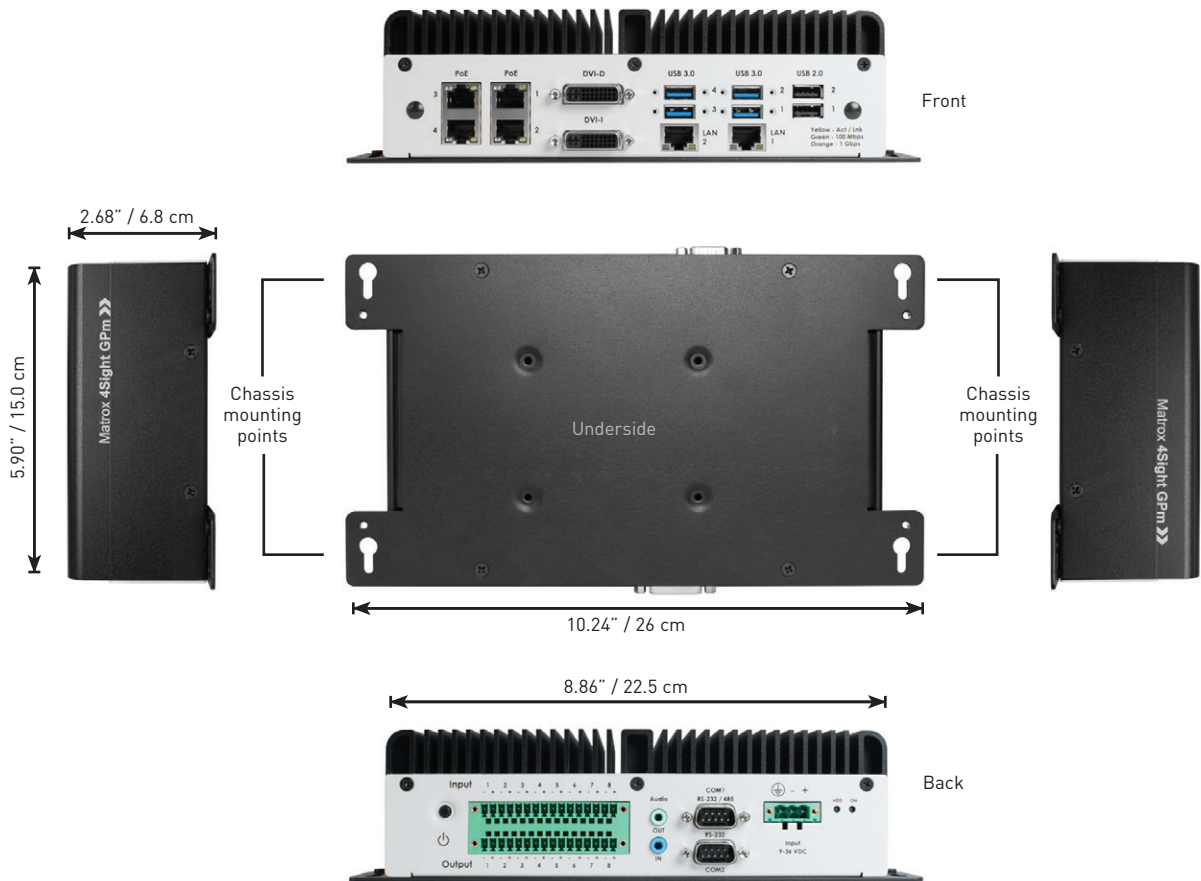
Matrox 4Sight GPm

Block diagram showing the 3rd generation mobile Intel® Core™ CPU (Embedded) connected via DDR3 (channel A) and DDR3 (channel B) to memory (DDR3 @ 1600Mbps, Dual Channel, SODIMM, non-ECC). The CPU connects via DMI and FDI to the Intel® HM76 PCH, which connects via SPI to Flash (BIOS). The PCH connects to USB 3.0 Ports, USB 2.0 Ports, SATA 3.0 Port 0 (SATA Connector), SATA 3.0 Port 1 (mSATA SSD), PCIe x1 to Ethernet PHY (82579) to RJ-45 Port 0, PCIe x1 to Ethernet Controller (I210) to RJ-45 Port 1, and PoE Ethernet Controllers (I210) to RJ-45 Ports 2–5. Also connected: Digital & Analog DVI Port, Digital DVI Port, mini PCIe connector, FPGA (via LPC) to Digital I/Os, RS-232 Port, RS-232/RS-485 Port, and Audio Codec to Analog Audio In/Out.

Matrox 4Sight GPm front and back

1. GbE ports with PoE
2. DVI-D output
3. DVI-I output
4. USB 3.0 ports
5. GbE ports
6. USB 2.0 ports
7. Power button
8. Digital inputs
9. Digital outputs
10. Audio out
11. Audio in
12. RS232/RS485 port
13. RS232 port
14. Power input
15. HDD LED
16. Power on LED

Matrox 4Sight GPm chassis

Front

2.68" / 6.8 cm

5.90" / 15.0 cm

Chassis mounting points

Underside

Chassis mounting points

10.24" / 26 cm

8.86" / 22.5 cm

Back

Specifications

System

- Intel® HM76 Platform Controller Hub (PCH)
- two (2) 204-pin DDR3-1333/1600 SODIMM slots (dual channel)
- dual head graphics support
  - one (1) DVI display output
        DVI-D 1.0 compliant
        up to 1920 x 1200 @ 60Hz
  - one (1) DVI-I display output
        up to 1920 x 1200 @ 60Hz digital
        up to 2048 x 1536 @ 75 Hz analog
- six (6) Gigabit Ethernet ports (10/100/1000)
  - four (4) GbE ports with PoE (up to 15.4 watts per port)
  - two (2) standard GbE ports
- four (4) USB 3.0 ports
- two (2) USB 2.0 ports
- one (1) SATA port (internal)
- one (1) mSATA connector
  (used by supplied 64GB mSATA SSD)
- one (1) miniPCIe connector (internal)
- one (1) 24-bit stereo audio input and 24-bit stereo output
- one (1) RS-232 port
- one (1) RS-232/RS485 port
- sixteen (16) digital I/Os
  - eight (8) inputs
        up to 24 V
  - eight (8) outputs (open collector)
        100mA max. @ 24 VDC
- 64GB mSATA SSD
- power input: 10 to 32 VDC (nominal 24VDC @ 4.2Amps)
- fanless enclosure
- dimensions
  - length: 22.5 cm (8.86")
  - width: 15.0 cm (5.90")
  - height: 6.8 cm (2.68")
- mounting
  - four mounting slots

Options

- Intel® Core™ i7-3517UE
  - Dual core with hyperthreading
  - 1.7 GHz – 2.8 GHz
  - 4 MB cache
  - Intel® HD Graphics 4000 (350 MHz – 1 GHz)
- Intel® Core™ i3-3217UE
  - Dual core with hyperthreading
  - 1.6 GHz
  - 3MB cache
  - Intel® HD Graphics 4000 (350 MHz – 900 MHz)
- Intel® Celeron® 1047UE
  - Dual core
  - 1.4GHz
  - 2 MB cache
  - Intel® HD Graphics (350MHz – 900 MHz)

- 4 GB Dual Channel DDR3-1600
- 8 GB Dual Channel DDR3-1600

Specifications (Cont.)

Environmental Information

- 0° C (32° F) to 50° C (122° F) operating temperature
- -40° C (-40° F) to 85° C (185° F) storage temperature
- up to 90% (non-condensing) relative humidity

Certifications

- FCC part 15 class A
- CE Class A (ITE)
- RoHS-compliant

Ordering Information

Hardware

Part number & Description

4GPMCM4*	Matrox 4Sight GPm integrated unit with Intel® **Celeron® 1047UE , 4GB** DDR3 RAM, 64GB mSATA SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit)[1]
4GPMI3M8*	Matrox 4Sight GPm integrated unit with Intel® Core™ **i3-3217UE, 8GB** DDR3 RAM, 64GB mSATA SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit)[1]
4GPMI7M8*	Matrox 4Sight GPm integrated unit with Intel® Core™ **i7-3517UE, 8GB** DDR3 RAM, 64GB mSATA SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit)[1]
4GPMPS*	100W AC/DC power adapter (90-264 VAC input/24 VDC output) for Matrox 4Sight GPm

Software

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

Endnotes:
1. With support for multiple languages.
   Only one language version can be used at any given time.
   Une seule version de langue peut être utilisée à la fois.
   Nur eine Sprachversion kann zu jeder gegebenen Zeit verwendet werden.
   Solo una versione di ogni lingua puo' essere utilizzata allo stesso tempo.
   Solo puede ser utilizada la versión de un idioma a la vez.
   いかなる時でも一言語毎の使用のみが,可能になります。
   한 가지 언어로만 제공되며 언제든지 사용이 가능하다
   两种以上的语言版本不可以同时使用
2. Matrox 4Sight GPm is pre-licensed for the MIL interface and DMIL run-time packages.
   All other MIL run-time packages require adding a separate license.

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

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