

# 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 real-time digital I/Os with rotary encoder support 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<sup>1</sup>**

**Solve applications rather than develop underlying tools by leveraging standard Microsoft® development tools and Matrox Imaging Library (MIL)<sup>2</sup>**

**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.



## Software Environment

### Real-time discrete I/Os

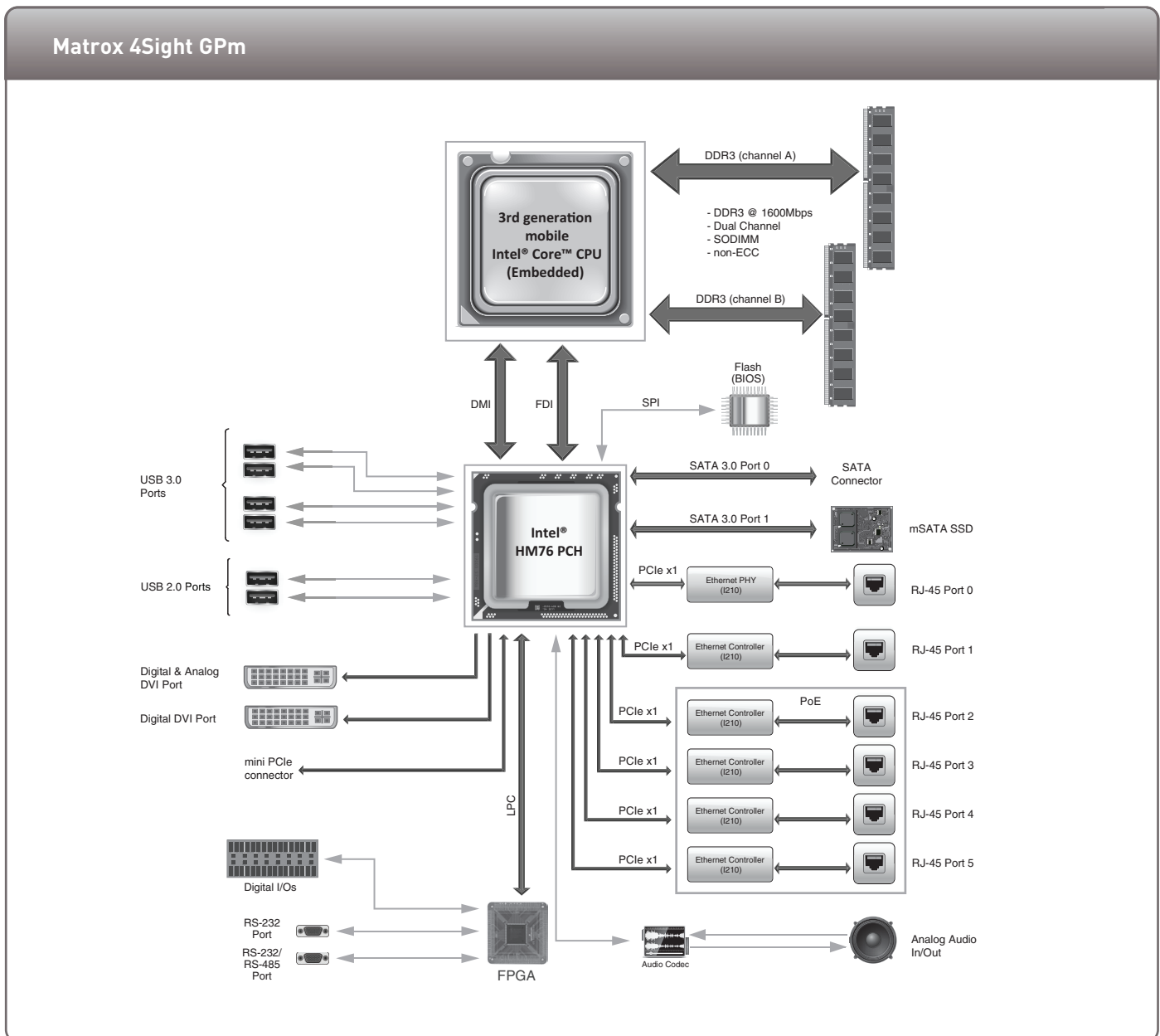
Real-time discrete I/O management is achieved on the Matrox 4Sight GPM through a dedicated hardware-assisted mechanism. The mechanism enables output events to occur at precise moments in time, based on elapsed time, or specific input events. An input event can come directly from a discrete input, including from a rotary encoder, or a count derived from a discrete input. Programmed output events are stored in a hardware list, which is traversed based on a clock or an input event. The carrying out of an output event results in a state transition, pulse or pulse train on a specific discrete output. Multiple cascadable hardware timers are available to count or generate specific events. The Matrox 4Sight GPM has what it takes to effectively synchronize a typical vision application with a manufacturing line.

### Microsoft® Windows® Embedded Standard 7<sup>1</sup>

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 GPM 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)<sup>2</sup>, 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.

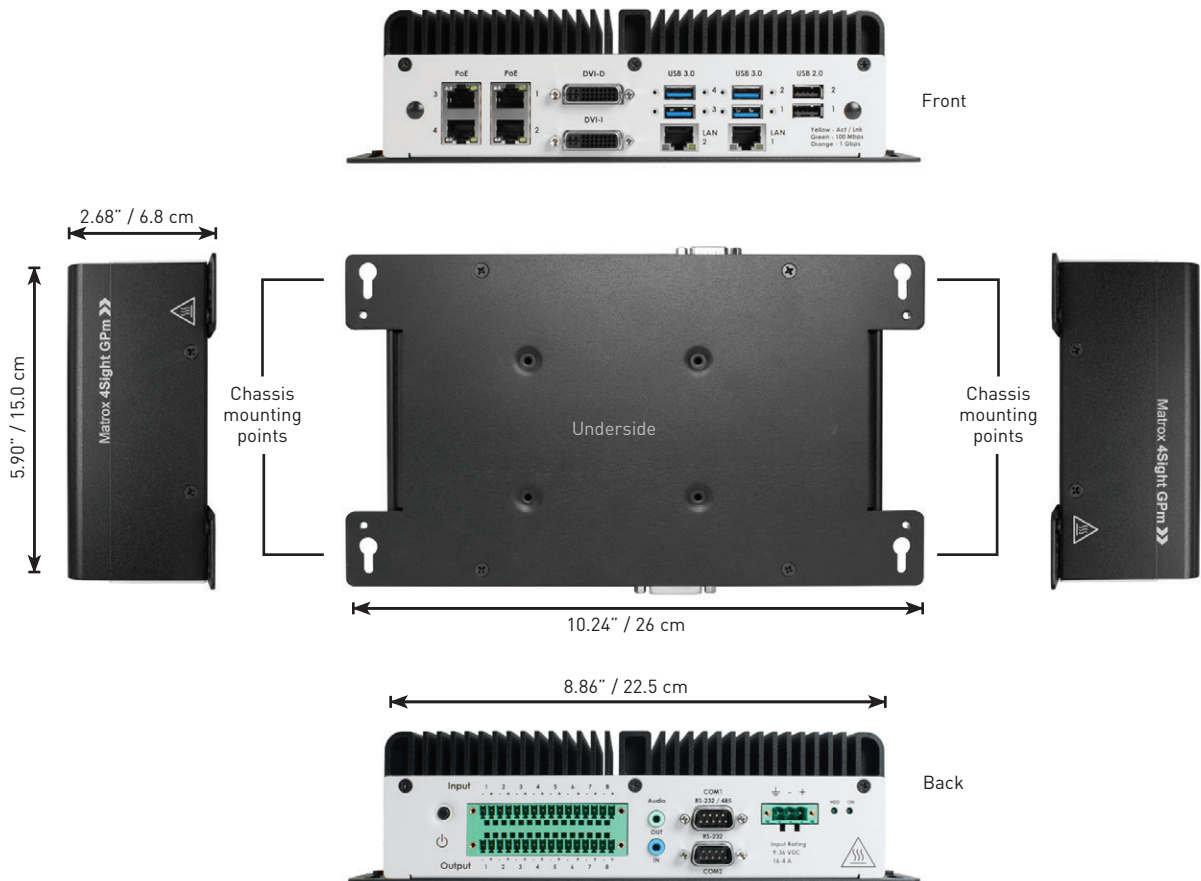


## Matrox 4Sight Gpm front and back



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

## Matrox 4Sight Gpm chassis



## 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 @ 75Hz 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 MLC 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)
- CSA certified to CSA60950 and UL60950
- RoHS-compliant

## Ordering Information

### Hardware

#### Part number & Description

<b>4GPMCM4*</b>	Matrox 4Sight GpM integrated unit with Intel® <b>Celeron® 1047UE</b> , <b>4GB</b> DDR3 RAM, 64GB mSATA MLC SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit) <sup>1</sup>
<b>4GPMI3M8*</b>	Matrox 4Sight GpM integrated unit with Intel® Core™ <b>i3-3217UE</b> , <b>8GB</b> DDR3 RAM, 64GB mSATA MLC SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit) <sup>1</sup>
<b>4GPMI7M8*</b>	Matrox 4Sight GpM integrated unit with Intel® Core™ <b>i7-3517UE</b> , <b>8GB</b> DDR3 RAM, 64GB mSATA MLC SSD, Microsoft® Windows® Embedded Standard 7 (32 -bit or 64 -bit) <sup>1</sup>
<b>4GPMPS*</b>	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:

- 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
- 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.

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