

HAWK MV-4000 at a Glance:

- High-performance C-mount machine vision camera with near-PC speeds
- Very high-quality images at rates up to 295 FPS
- Capable of storing and running many large and complex jobs
- Rugged IP67-rated design for use in industrial environments
- Customizable, selectable fully integrated hardware options for a wide range of applications
- Mono and color sensor options available
- Scalable software options



HAWK MV-4000 Smart Camera

The HAWK MV-4000[®] is Microscan's new high-performance camera. It is the middle tier in a suite of products that includes miniature MicroHAWK MV Smart Cameras at the lower end and Visionscape PC-Based, extremely powerful GigE Camera systems at the higher end. This smart camera has 4 times the processing power, and up to 6 times the frame rates over the previous generation of smart cameras. With near PC performance, there are virtually no applications beyond the reach of the HAWK MV-4000.

High Performance and Speed

The HAWK MV-4000 can store, load, and run up to 50 simple or complex jobs. Processing times reach near-PC speeds, enabling the camera to keep up with line rates of up to 6,000 parts per minute and speeds of over 300 inches per second. The camera features a full range of sensors, from 0.3 MP to 5PM based on the ON Semiconductor PYTHON CMOS series. All sensors have a 4.8 µm pixel size enabling them to capture high-quality images at very high frame times.

Full Control and Interoperability

The camera is equipped with realtime Digital I/O, RS-232, and GigE Ethernet ports. Through these communication channels, the user can control and trigger the unit, as well as receive results and images. The GigE port allows images to be ported to a display at nearly the same speed as the frame rate. Additional protocols such as PROFINET and Ethernet/IP allow seamless integration with most of the key PLC platform devices on the market.

Intuitive Set-Up

Intuitive user interfaces offer the fastest setup time out of the box. User-friendly software features include simple setup environment for device connectivity, image tuning and inspection tasks, as well as browser- based online monitoring.

Ease of Customization and Scalability

Access the full range of Microscan automation tools, from selectable hardware (sensor, optics, lighting) and software options. Expand HAWK's applications from basic to more complex machine vision inspection by scaling to advanced software all on the same device.

Integrated Lighting

The camera is fully accessorized for use with NERLITE Smart Series machine vision lighting products.

Applications

The combination of C-Mount lens, external lighting, and 0.3 to 5 MP sensors allows users to configure the system to accomplish virtually any application, from reading tiny 1D or 2 D symbols on flat panel displays to inspecting entire automotive assemblies including:

- Fast-moving consumer goods inspection
- Automotive assembly inspection and verification
- High-precision gauging and guidance
- Electronics assembly verification and identification
- Semiconductor packaging and component inspection
- 1D, 2D, and OCR symbol reading for any size mark
- Fast inline 1D and 2D symbol verification and validation
- Color inspection and verification.

Software Options:



AutoVISION® Machine Vision Software provides a simple setup & runtime interface for solving basic to mid-range vision that can be mastered by a casual user on the factory floor. Scalable to Visionscape®.

Advanced Machine Vision

Visionscape[®] **Machine Vision Software** provides a professional setup & runtime interface with access to Microscan's full auto ID, verification, and machine vision tools. HAWK MV-4000 can be controlled and monitored through custom web interfaces or UIs specifically designed and programmed for

the application.

MICROSCAN.

MACHINE VISION SYSTEMS

HAWK MV-4000

SPECIFICATIONS AND OPTIONS



Length (without connectors): 75 mm (2.95") x 75 mm (2.9") \pm 2 mm (0.079") Width: 75 mm (2.95") \pm 2 mm (0.079") Depth (without lens): 54 mm (2.13") \pm 2 mm (0.079") Weight: 460.39 g (16.24 oz.)

C-Mount Optics

Model	HAWK MV-4000-03	HAWK MV-4000-03C	HAWK MV-4000-13	HAWK MV-4000-13C	HAWK MV-4000-20	HAWK MV-4000-20C	HAWK MV-4000-50	HAWK MV-4000-50C
	Sensor							
Make and Model	ON Semiconductor – Python Family (NOIP1SN or NOIP1SE)				ON Semiconductor – Python Family (NOIP1SN or NOIP1SE)			
Туре	CMOS							
Geometry	1/4"	-Туре	1/2"-Туре		2/3"-Type		1"-Type	
Format	Monochrome	Color	Monochrome	Color	Monochrome	Color	Monochrome	Color
Resolution (H x V)	640 x 480		1280 x 1024		1920 x 1200		2592 x 2048	
Frame Rate (Effective)	Up to 293 FPS	Up to 147 FPS	Up to 85 FPS	Up to 35 FPS	Up to 45 FPS	Up to 20 FPS	Up to 21 FPS	Up to 8.5 FPS
Pixel Size (H x V)	4.8 μm x 4.8 μm							
Gain Range	0 to 19.4 dB							
Shutter Speed	50 µsec to 4 sec							
Trigger Response	External trigger to strobe output delay = 10 μ s. Jitter = 1 - 2 μ s.							
	Processor, Memory, Storage							
Processor	Dual Core							
Memory	2GB RAM							
Storage	32GB							
	Interfaces							
Network	Gigabit Ethernet							
нмі	VGA and USB 2.0 (for keyboard and mouse)							
Digital I/O	3 optocoupled inputs, 1 dedicated optocoupled trigger. 3 outputs (output 3 is used for external strobe when enabled).							
Other	Dedicated interface for Varioptic Caspian autofocus lens							
	Mechanical, Electrical, Environmental							
Lens Type	C-Mount							
Connectors	M12 8-pin socket for Ethernet; M12 12-pin socket for power, digital I/O, M12 12-pin plug for VGA and USB							
Weight	460 g							
Power Consumption	450 mA @ 24VDC or 10.8W (typical)							
Operating Temperature	0° C to 50° C (32° F to 122° F)							
Ventilation Requirement	Natural convection							
IP Rating	IP67 (with lens cap)							

MICROSCAN.

HAWK MV-4000 Specifications and Options







Note: Nominal dimensions shown. Typical tolerances apply.

Connectors





10/1000 Base-T Connector M12 8-Pin X-Coded Socket



VGA/USB Connector M12 12-Pin Plug

©2017 Omron Microscan Systems, Inc. SP101A-EN-1117 Specifications are subject to change. For complete technical information, please see the User Manual. Warranty – For current warranty information about this product, please visit www.microscan.com/warranty.

MICROSCAN. www.microscan.com