

VISION HAWK SMART CAMERA



Flexible Industrial Vision System

The Vision HAWK is a flexible industrial smart camera that delivers powerful vision capabilities in a compact, easy-to-use package. Developed for vision users of all experience levels in a broad range of applications, the Vision HAWK features an intuitive vision interface, optional C-mount lens design, integrated lighting, high resolution optical zoom, and simple plug and play connectivity.

With the Vision HAWK, both integrators and end-users have a scalable, fully integrated vision solution to confidently solve any inspection, verification, or auto ID application.

Vision HAWK: At a Glance

- Integrated with AutoVISION software
- Industry proven machine vision tools
- Fully integrated with processor, lens and illumination
- Liquid lens autofocus
- Optional C-Mount Lens Model Available
- Integrated Ethernet networking



AutoVISION Software: Provides a simple setup and run time interface for solving basic to mid-range vision applications.



Visionscape Software (optional): Enables scripting and other advanced programming capabilities.



AutoVISION Button: Performs automatic focus, photometry, and training.



Visible Indicators: Shows inspection status and IO state at a glance.

For more information on this product, visit www.microscan.com.

Vision HAWK: Capabilities



- 1D/2D symbol decoding
- Optical Character Recognition (OCR)
- Dynamic part location
- Assembly verification
- Dimensional measurements

Plus Visionscape Option:

- Optical Character Verification (OCV)
- Image transformation and scaling
- Precision calibration
- Custom vision tools (scripting)

Powerful Capabilities

Features a robust tool set to address a wide range of automation challenges using vision technology. Combined with patented liquid lens autofocus, the Vision HAWK can easily cover almost any vision or barcode application.

Advanced Optical System

High resolution modular optical zoom system enables the Vision HAWK to inspect objects and labels at distances from 33 mm to 2 m and beyond.

Fully Integrated

The Vision HAWK features on-board optically isolated I/O connections for trigger and results.

Scalable System

AutoVISION software allows easy expansion to more complex vision applications through migration to full Visionscape® software.

Ease of Use

In addition to a compact size for flexible positioning, the Vision HAWK includes AutoVISION software with an intuitive interface, step-by-step guides, and a library of templates that allow easy set up and deployment.

Rugged Design

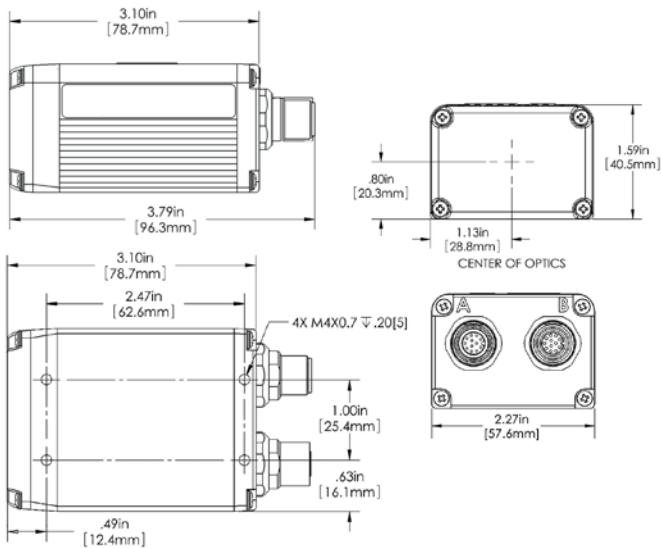
The Vision HAWK features a rugged industrial design with a cast alloy IP65/67 enclosure and M12 connectors. Integrated Ethernet protocols are included for high speed communication.

Application Examples

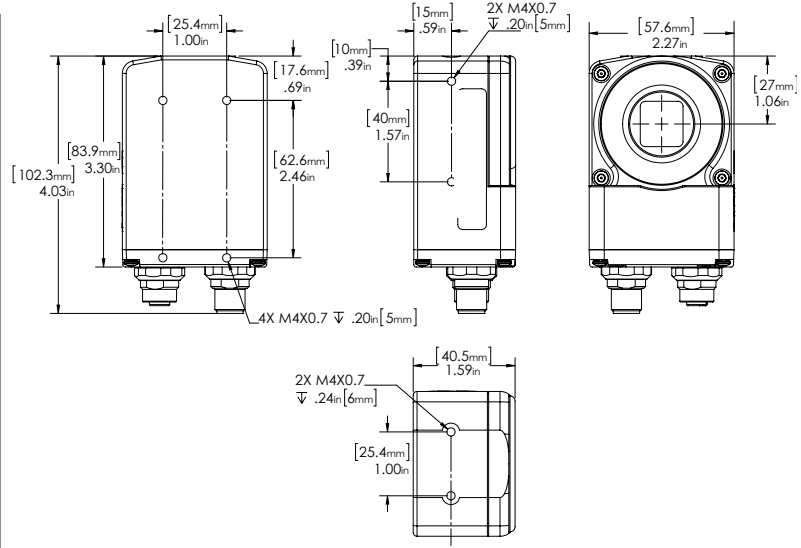
- Automotive**
 - Assembly verification
 - Part identification
- Packaging**
 - Label positioning
 - Contents verification
- Electronics**
 - Assembly verification and identification
- Semiconductors**
 - Packages and components

MICROSCAN®

VISION HAWK SMART CAMERA SPECIFICATIONS AND OPTIONS



Note: Nominal dimensions shown. Typical tolerances apply.



MECHANICAL (INTEGRATED OPTICS)

Height: 1.59" (40.5 mm) **Width:** 2.27" (57.6 mm)
Depth: 3.79" (96.3 mm) **Weight:** 10 oz. (280 g)

MECHANICAL (C-MOUNT OPTICS)

Height: 4.03" (102.3 mm) **Width:** 2.27" (57.6 mm)
Depth: 1.59" (40.5 mm) **Weight:** 11 oz. (320 g)

ENVIRONMENTAL

Enclosure: Die-cast aluminum, IP65/67 rated
Operating Temperature: 0° to 50° C (32° to 122° F)
Operating Temperature (SXGA): 0° to 45° C (32° to 113° F)
Storage Temperature: -29° to 70° C (-20° to 158° F)
Humidity: Up to 90% (non-condensing)

COMMUNICATION INTERFACE

Interface: RS-232 or Ethernet

CE MARK

General Immunity for Light Industry:
 EN 55024: 1998 ITE Immunity Standard
Radiated and Conducted Emissions of ITE Equipment: EN 55022:98 ITE Disturbances

LIGHT SOURCE (INTEGRATED OPTICS)

Type: High output LEDs



SENSOR OPTIONS

Sensor: 1/3 inch
WVGA: CMOS, 752 by 480 pixels, up to 60 fps
SXGA: CCD, 1280 by 960 pixels, up to 20 fps
WUXGA: 2/3 inch sensor, CMOS, 2048 by 1088 pixels, up to 48 fps (only available in C-mount configuration)

SHUTTER OPTIONS

WVGA: 25µs to 100ms (1/40,000 to 1/10), default = 400µs (1/2,500)
SXGA: 6µs to 100ms (1/150,000 to 1/10), default = 666µs (1/1,500)
WUXGA: 25µs to 100ms (1/40,000 to 1/10), default = 400µs (1/2,500)

SYMBOLOGIES

2D Symbolologies: Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code
Stacked Symbolologies: PDF417, Micro PDF417, GS1 Databar (Composite & Stacked)
Linear Barcodes: Code 39, Code 128, BC 412, I2 of 5, UPC/EAN, Codabar, Code 93, Pharmacode, PLANET, PostNet, Japanese Post, Australian Post, Royal Mail, Intelligent Mail, KIX

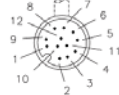
IMAGING RATES

WVGA CMOS: up to 60 full frame images/second
SXGA CCD: up to 20 full frame images/second
WUXGA CMOS: up to 48 full frame images/second

PIN ASSIGNMENTS

CONNECTOR A

M12 12-pin plug:



Pin Assignment

9	Host Rx D
10	Host Tx D
2	Power
7	Ground
1	Trigger
8	Input Common
3	Default
4	Input 1
5	Output 1
11	Output 2
6	Output 3
12	Output Common

CONNECTOR B

M12 8-pin socket:



Pin Assignment

1	Terminated
2	Terminated
3	Terminated
4	TX (-)
5	RX (+)
6	TX (+)
7	Terminated
8	RX (-)

LASER LIGHT (INTEGRATED OPTICS)

Type: Laser diode
Output Wavelength: 655 nm nominal
Operating Life: 50,000 hours @ 25° C
Safety Class: Class 1 visible laser



ELECTRICAL

WVGA Power Requirement: 5-28 VDC, 200 mV p-p max ripple, 135 mA at 24 VDC (typ.)
SXGA Power Requirement: 5-28 VDC, 200 mV p-p max ripple, 170 mA at 24 VDC (typ.)
WUXGA Power Requirement: 5-28 VDC, 200 mV p-p max ripple, 140 mA at 24 VDC (typ.)

INDICATORS

LEDs: Trigger, Pass, Fail, Mode, Power, Network Activity, I/O
INTEGRATED OPTICS MODEL ONLY:
Green Flash: Good read **Red X:** Symbol locator

DISCRETE I/O

Trigger: Bi-directional, optoisolated, 4.5–28V rated, (13 mA at 24 VDC)
Outputs (1, 2 & 3): Bi-directional, optoisolated, 1–28V rated, (I_{CE} <100 mA at 24 VDC, current limited by user)

PROTOCOLS

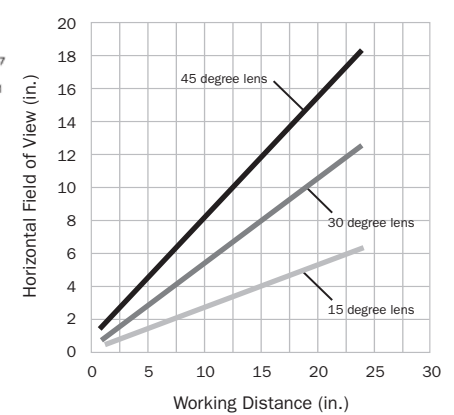
Point-to-Point, Point-to-Point w/XON/XOFF, Ethernet TCP/IP

IMAGING PARAMETERS

Focal Range: 1" (33 mm) to ∞ (liquid lens autofocus)

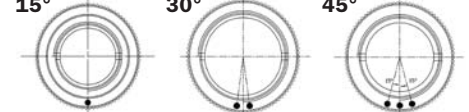
INTEGRATED OPTIONS MODEL:

FIELD OF VIEW AND WORKING DISTANCE



INTEGRATED OPTIONS MODEL:

MODULAR ZOOM OPTICS



ROHS/WEEE COMPLIANT SAFETY CERTIFICATIONS

CDRH, FCC, UL/cUL, CE, CB, BSMI (compliant)

ISO CERTIFICATION

Certified ISO 9001:2008 Quality Management System

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 Performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25° C environment. For application-specific results, testing should be performed with symbols used in the actual application. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality.
Warranty: One year limited warranty on parts and labor. Free extended three year warranty available with online product registration.

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