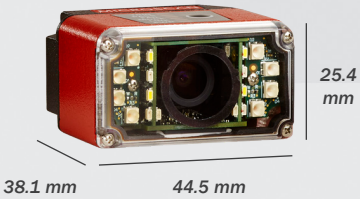
MicroHAWK® MV Smart Cameras

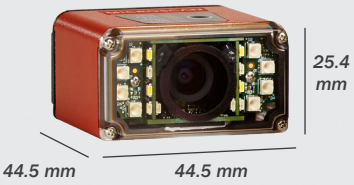
MicroHAWK redefines imaging technology as a single, omni-capable platform for any automation task. With the scalability to accomplish simple to advanced machine vision in one, MicroHAWK offers the breadth of Microscan software and hardware options on the smallest smart camera suite ever developed. The MicroHAWK MV series consists of three industrial-rated miniature smart cameras with unrivaled flexibility, ease of use, and universal application potential.

MV-20

MV-30



MV-40



- Ultra-compact shape and size
- Complete with processor, lens, illumination, and software for easy integration into embedded and industrial applications
- Simultaneously inspect multiple part features and decode barcodes or direct part marks
- On-board storage for multiple jobs
- Mono and color sensor options available
- Customizable, fully-integrated hardware options

Compact & Lightweight
The MicroHAWK platform offers the world's smallest, fully-integrated smart cameras. Their compact size allows flexible positioning in tight spaces. Lightweight and durable, with either plastic or aluminum enclosure, the cameras weigh only 28-68g.

Autofocus
Liquid lens autofocus calibration finds and stores the optimum focus for each inspection task. Cameras automatically adjust to pre-set focal points for each inspection task to run multiple inspections at virtually any part-to-camera distance.

Intuitive Setup & Control
Plug-and-play hardware and intuitive interfaces offer the fastest setup time out of the box. User-friendly software features include assisted setup functions, browser-based interfaces, and simple graphical environments for device control.

Powerful Capabilities
Access the full range of Microscan automation tools, from selectable hardware options (sensor, optics, lighting, and autofocus), to advanced software tools for ID, gauging, inspection, and guidance, all on the world's smallest smart camera.

Scalable System
Expand MicroHAWK's applications from basic to complex machine vision inspection by scaling to advanced software all on the same device.

Application Examples

- Part tracking, traceability, and guidance
- Life sciences and clinical instrumentation
- Electronics assembly and test
- Machined part inspection
- Package and label inspection

Software Options

Auto ID+

AutoVISION® Machine Vision Software provides a simple setup & runtime interface for solving basic to mid-range vision and auto ID applications. 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.

MicroHAWK Capabilities

- 1D/2D symbol decoding
- Optical Character Recognition (OCR)
- Symbol Quality Verification and OCV
- Dynamic part location
- Assembly verification
- Dimensional measurements
- Color Match and Color ID tool
- Image transformation and scaling
- Precision calibration
- Custom vision tools (scripting)
- Program control functions
- 50+ machine vision tools

MicroHAWK MV Product Specifications

	MV–20			MV–30			MV–40		
SOFTWARE	AutoVISION Sensor, AutoVISION, Visionscape								
SPEED	400 MHz			800 MHz			800 MHz		
OPTICS	**Fixed:** Standard Density (5.2 mm), High-Density (8.0 mm), UHD (16.0 mm)			**Fixed:** Standard Density (5.2 mm), High-Density (8.0 mm), UHD (16.0 mm) **Autofocus:** Standard Density (5.2 mm), High-Density (7.7 mm), UHD (16.0 mm)					
FOCUS	**Fixed:** Factory Set to 50, 102, 190 or 300 mm (SD, HD); 64 or 400 mm (UHD)			**Fixed:** Factory Set to 50, 102, 190 or 300 mm (SD, HD); 64 or 400 mm (UHD) **Autofocus:** Software Adjustable 50 to 300 mm (SD, HD); 40 to 150 mm (UHD)					
SENSOR (CMOS)	WVGA (Mono) 0.34 MP (752 x 480), 4.51 x 2.88 mm, 6 µm pixel size	SXGA (Mono) 1.2 MP (1280 x 960), 4.80 x 3.60 mm, 3.75 µm pixel size	QSXGA (Color) 5 MP (2592 x 1944), 4.536 x 3.402 mm, 1.75 µm pixel size	WVGA (Mono) 0.34 MP (752 x 480), 4.51 x 2.88 mm, 6 µm pixel size	SXGA (Mono) 1.2 MP (1280 x 960), 4.80 x 3.60 mm, 3.75 µm pixel size	QSXGA (Color) 5 MP (2592 x 1944), 4.536 x 3.402 mm, 1.75 µm pixel size	WVGA (Mono) 0.34 MP (752 x 480), 4.51 x 2.88 mm, 6 µm pixel size	SXGA (Mono) 1.2 MP (1280 x 960), 4.80 x 3.60 mm, 3.75 µm pixel size	QSXGA (Color) 5 MP (2592 x 1944), 4.536 x 3.402 mm, 1.75 µm pixel size
EXPOSURE TIME	50 µsec - 66,667 µsec	66 µsec - 58,825 µsec	66 µsec - 66,667 µsec	50 µsec - 66,667 µsec	66 µsec - 58,825 µsec	66 µsec - 66,667 µsec	50 µsec - 66,667 µsec	66 µsec - 58,825 µsec	66 µsec - 66,667 µsec
SHUTTER	Global		Rolling	Global		Rolling	Global		Rolling
FRAME RATE	52	40	5	52	40	5	52	40	5
FTP IMAGE STORAGE	Yes			Yes			Yes		
PASSIVE POE	N/A			N/A			24 Volt Passive PoE, Type B, Requires Passive PoE Power Supply		
CONNECTIVITY	USB 2.0 High Speed, Ethernet over USB			RS-232, USB 2.0 High Speed, Ethernet over USB			RS-232, Ethernet TCP/IP, EtherNet/IP™, PROFINET®		
CONNECTOR	Micro-B USB			High-Density 15-Pin D-Sub			M12 12-Pin Power, M12 8-Pin Ethernet		
ENCLOSURE	IP40, Plastic			IP54, Aluminum			IP65/67, Aluminum		
CABLE	N/A			0.91 m			N/A		
ILLUMINATION	Inner LEDs: 4 White and 4 Red			Inner LEDs: 4 White and 4 Red			Inner LEDs: 4 White and 4 Red		
	Outer LEDs: N/A			Outer LEDs: 8 High-Output Red, White Blue or IR (Optional)			Outer LEDs: 8 High-Output Red, White Blue or IR (Optional)		
DISCRETE I/O	N/A			**2 in/3 out** Trigger Input, New Master Input: 5-28V rated (0.16mA @ 5VDC) Strobe Output, 2 General Purpose Outputs: 5V TTL-compatible, can sink 10mA and source 10mA			**2 in/3 out** Optoisolated Trigger Input; New Master Input: Bi-directional, optoisolated, 1-28V rated (10mA @ 28VDC) Strobe Output, 2 General Purpose Outputs: Bi-directional, optoisolated, 1-28V rated (ICE < 100mA at 24VDC, current limited by user)		
ELECTRICAL	5 VDC ± 5 %, 350 mA at 5 VDC (typ.)			5 VDC ± 5 %, 600 mA at 5 VDC (typ.)			4.75-30 VDC, 200 mV p-p max ripple, 150 mA at 24 VDC (typ.)		
DIMENSIONS	24 mm x 34 mm x 39 mm			25 mm x 45 mm x 38 mm			25 mm x 45 mm x 45 mm		
WEIGHT	26 g			46 g (Excluding Cable)			68 g		
INDICATORS	Power LED, Target LEDs, Inspection Passed Green Flash			Power LED, Status LEDs, Target LEDs, Inspection Passed Green Flash			Power LED, Status LEDs, Target LEDs, Inspection Passed Green Flash		

SYMBOLOGIES
2D Symbologies: Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code **Stacked Symbologies:** 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

LIGHT SOURCE **Type:** High-output LEDs **Output Wavelength:** Inner Red: 625 nm nominal; Outer Red: 617 nm nominal **Operating Life:** 50,000 hours @ 25° C

ENVIRONMENTAL **Operating Temp.:** 0° to 45° C (32° to 113° F) **Storage Temp.:** -50° to 75° C (-58° to 167° F) **Humidity:** 5% to 95% (non-condensing)

NOTE: Specifications are subject to change. For complete technical information and read range data, please see the User Manual available at www.microscan.com.

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