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.

**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

**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

**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 MV Product Specifications

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<th>SOFTWARE</th>
<th>MV-20</th>
<th>MV-30</th>
<th>MV-40</th>
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<tr>
<td></td>
<td>AutoVISION Sensor, AutoVISION, Visionscape</td>
<td>800 MHz</td>
<td>800 MHz</td>
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</table>

### SPEED
- **MV-20**: 400 MHz
- **MV-30**: 800 MHz
- **MV-40**: 800 MHz

### OPTICS
- **MV-20**: Fixed: Standard Density (5.2 mm), High-Density (8.0 mm), UHD (16.0 mm)
- **MV-30**: Fixed: Standard Density (5.2 mm), High-Density (8.0 mm), UHD (16.0 mm)
- **MV-40**: Autofocus: Standard Density (5.2 mm), High-Density (7.7 mm), UHD (16.0 mm)

### FOCUS
- **MV-20**: Fixed: Factory Set to 50, 102, 190 or 300 mm (SD, HD); 64 or 400 mm (UHD)
- **MV-30**: Fixed: Factory Set to 50, 102, 190 or 300 mm (SD, HD); 64 or 400 mm (UHD)
- **MV-40**: Autofocus: Software Adjustable 50 to 300 mm (SD, HD); 40 to 150 mm (UHD)

### SENSOR (CMOS)
- **MV-20**: WVG (Mono) 0.34 MP (752 x 480), 4.51 x 2.88 mm, 6 μm pixel size
- **MV-30**: SXG (Mono) 1.2 MP (1280 x 960), 4.80 x 3.60 mm, 3.75 μm pixel size
- **MV-40**: QSXGA (Color) 5 MP (2592 x 1944), 4.536 x 3.60 mm, 3.75 μm pixel size

### EXPOSURE TIME
- **MV-20**: 50 μsec - 66,667 μsec
- **MV-30**: 50 μsec - 66,667 μsec
- **MV-40**: 50 μsec - 66,667 μsec

### SHUTTER
- **MV-20**: Global, Rolling
- **MV-30**: Global, Rolling
- **MV-40**: Global, Rolling

### FRAME RATE
- **MV-20**: 52
- **MV-30**: 40
- **MV-40**: 5

### FTP IMAGE STORAGE
- **MV-20**: Yes
- **MV-30**: Yes
- **MV-40**: Yes

### PASSIVE POE
- **MV-20**: N/A
- **MV-30**: N/A
- **MV-40**: 24 Volt Passive PoE, Type B, Requires Passive PoE Power Supply

### CONNECTIVITY
- **MV-20**: USB 2.0 High Speed, Ethernet over USB
- **MV-30**: RS-232, USB 2.0 High Speed, Ethernet over USB
- **MV-40**: RS-232, Ethernet TOP/IP, EtherNet/IP™, PROFINET®

### CONNECTOR
- **MV-20**: Micro-B USB
- **MV-30**: High-Density 15-Pin D-Sub
- **MV-40**: M12 12-Pin Power, M12 8-Pin Ethernet

### ENCLOSURE
- **MV-20**: IP40, Plastic
- **MV-30**: IP64, Aluminum
- **MV-40**: IP65/67, Aluminum

### CABLE
- **MV-20**: N/A
- **MV-30**: N/A
- **MV-40**: N/A

### ILLUMINATION
- **MV-20**: Inner LEDs: 4 White and 4 Red
- **MV-30**: Inner LEDs: 4 White and 4 Red
- **MV-40**: Inner LEDs: 4 White and 4 Red

### DISCRETE I/O
- **MV-20**: 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
- **MV-30**: 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
- **MV-20**: 5 VDC ± 5 %, 350 mA at 5 VDC (typ.)
- **MV-30**: 5 VDC ± 5 %, 600 mA at 5 VDC (typ.)
- **MV-40**: 4.75-30 VDC, 200 mV p-p max ripple, 150 mA at 24 VDC (typ.)

### DIMENSIONS
- **MV-20**: 24 mm x 34 mm x 39 mm
- **MV-30**: 25 mm x 45 mm x 38 mm
- **MV-40**: 25 mm x 45 mm x 45 mm

### WEIGHT
- **MV-20**: 26 g
- **MV-30**: 46 g (Excluding Cable)
- **MV-40**: 68 g

### INDICATORS
- **MV-20**: Power LED, Target LEDs, Inspection Passed Green Flash
- **MV-30**: Power LED, Status LEDs, Target LEDs, Inspection Passed Green Flash
- **MV-40**: Power LED, Status LEDs, Target LEDs, Inspection Passed Green Flash

### SYMBOLOGIES
- 2D Symbolegies: Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code
- Stacked Symbolegies: PDF417, Micro PDF417, GS1 Databar (Composite & Stacked)

### 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.