

# MICROHAWK MV-40

## SPECIFICATIONS AND OPTIONS



**Ultra-Compact**  
**Height:** 25 mm (0.98")  
**Width:** 45 mm (1.77")  
**Length:** 45 mm (1.77")

**Integrated LEDs**

### DIMENSIONS

**Height:** 25 mm (0.98")  
**Width:** 45 mm (1.77")  
**Length:** 45 mm (1.77")  
**Weight:** 68 g (2.40 oz.)

### ENCLOSURE

IP-65/67, Aluminum

### ENVIRONMENTAL

**Operating Temperature:** 0° to 40° C (32° to 104° F)  
**Storage Temp.:** -50° to 75° C (-58° to 167° F)  
**Humidity:** 5% to 95% (non-condensing)  
**Operating Life:** 50,000 hours @ 25° C

### EMISSIONS

EN 55022:2010 Class A Limits

### ELECTRICAL

4.75-30 VDC, 200 mV p-p max ripple, 150 mA at 24 VDC (typ.)

### CONNECTOR

M12 12-Pin Power, M12 8-Pin Ethernet

### PASSIVE

24 Volt Passive Power over Ethernet, Type B. Requires Microscan power supply.

### COMMUNICATION

RS-232, Ethernet TCP/IP, EtherNet/IP, PROFINET

### DISCRETE I/O

2 in/3 out, Optoisolated Trigger Input; New Master Input: Bi-directional, Optoisolated, 1-28 V rated (10 mA @ 28 VDC); Strobe Output, 2 General Purpose Outputs: Bi-directional, Optoisolated, 1-28 V rated ( $I_{CE} < 100$  mA @ 24 VDC, current limited by user)

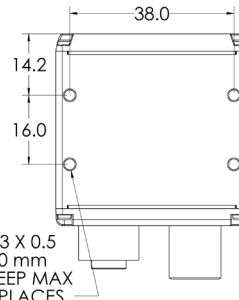
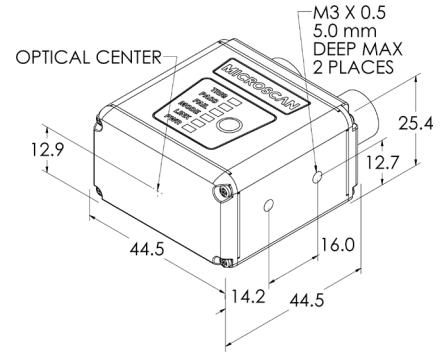
### ILLUMINATION

**Inner Red:** 4 LEDs, 625 nm nominal;  
**Inner White:** 4 LEDs;  
**Outer Red:** 8 LEDs, 617 nm nominal;  
**Outer White:** 8 LEDs  
**Light Modes:** Inner or Outer. Off, On, Strobe, Power Strobe. Power Strobe for Outer LEDs only.

### SPEED

800 MHz

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M3 X 0.5  
5.0 mm  
DEEP MAX  
4 PLACES

**Note:** Nominal dimensions shown. Typical tolerances apply.

### INDICATORS

TRIG, PASS, FAIL, MODE, LINK, PWR LEDs; 2 Target Pattern LEDs; 2 Inspection Passed Green Flash LEDs

### MEMORY

2 GB Non-Volatile Flash, 256 MB RAM

### SOFTWARE

AutoVISION Sensor, AutoVISION, Visionscape

### FTP IMAGE STORAGE

Supported

### SENSOR OPTIONS

**WVGA (Mono):** CMOS 0.34 MP (752 x 480), 4.51 x 2.88 mm, 6 µm pixel size  
**SXGA (Mono):** CMOS 1.2 MP (1280 x 960), 4.80 x 3.60 mm, 3.75 µm pixel size  
**QSXGA (Color):** CMOS 5 MP (2592 x 1944), 4.536 x 3.402 mm, 1.75 µm pixel size

### SHUTTER

Global (WVGA, SXGA), Rolling (QSXGA)

### EXPOSURE

**WVGA:** 50 to 66,667 µs; **SXGA:** 66 to 58,825 µs; **QSXGA:** 66 to 66,667 µs

### LENS TYPES

5.2 and 8.0 mm lenses

### FOCUS

**Fixed Focus:** Standard Density (5.2 mm), High Density (8.0 mm); Factory Set to 50 mm, 102 mm, 190 mm, or 300 mm  
**Autofocus:** Standard Density (5.2 mm), High Density (7.7 mm); Software Adjustable (50 mm to ∞)

### FRAMES PER SECOND

**WVGA:** Up to 60; **SXGA:** Up to 42; **QSXGA:** Up to 5

### SYMBOLOGIES

**2D:** Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code  
**Stacked:** PDF417, MicroPDF417, GS1 Databar (Composite and Stacked)  
**Linear:** Code 39, Code 128, BC412, Interleaved 2 of 5, UPC/EAN, Codabar, Code 93, Pharmacode, PLANET, POSTNET, Japanese Postal, Australia Post, Royal Mail, Intelligent Mail, KIX

### SAFETY AND QUALITY

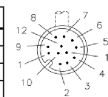
FCC, CE, RoHS-Compliant

### QMS CERTIFICATION

www.microscan.com/quality

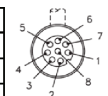
### CONNECTOR A M12 12-Pin Plug:

Pin	Function
9	Host RxD
10	Host TxD
2	Power
7	Ground
1	Trigger
8	Input Common
3	Default
4	New Master
5	Output 1
11	Output 2
6	Output 3
12	Output Common



### ETHERNET CONNECTOR B M12 8-Pin Socket:

Pin	Function
1	V+
2	V-
3	V-
4	TX (-)
5	RX (+)
6	TX (+)
7	V+
8	RX (-)



**MICROSCAN**

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Specifications are subject to change. For complete technical information, please see the MicroHAWK MV-20/MV-30/MV-40 Configuration Guide, available at [www.microscan.com](http://www.microscan.com).

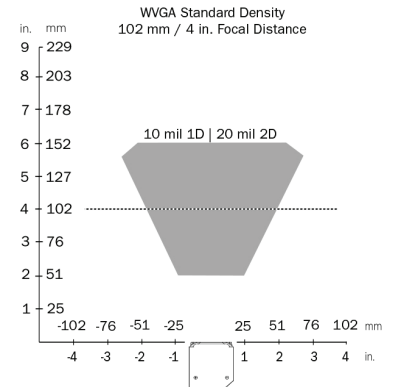
Warranty – For current warranty information about this product, please visit [www.microscan.com/warranty](http://www.microscan.com/warranty).

# MICROHAWK MV-40 FIELD OF VIEW AND READ RANGE CHARTS

## WVGA Sensor Read Ranges

Focus Distance		WVGA HIGH DENSITY						WVGA STANDARD DENSITY					
		Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size	Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size
in.	mm	in.	mm	mil size	Inside	Outside	mil size	in.	mm	mil size	Inside	Outside	mil size
2.0	50	1.4	35	7.5	43	58	5	2.0	50	10	38	65	7.5
2.5	64	1.5	38	7.5	55	73	5	2.2	55	10	49	78	7.5
3.2	81	1.9	49	10	65	97	7.5	2.8	70	15	56	106	10
4.0	102	2.6	65	10	83	121	10	3.7	94	20	52	152	15
5.2	133	3.1	80	15	90	176	10	4.5	115	20	78	187	15
7.5	190	4.5	114	20	133	246	15	6.5	165	30	128	252	20
11.8	300	7.1	180	30	179	422	30	10.2	260	40	219	381	30

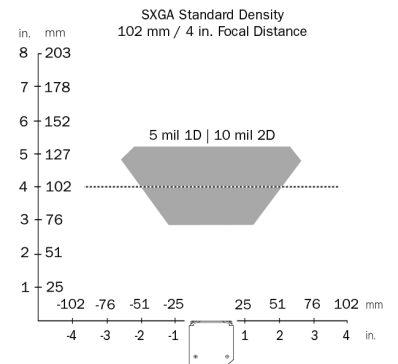
### Example Read Range:



## SXGA Sensor Read Ranges

Focus Distance		SXGA HIGH DENSITY						SXGA STANDARD DENSITY					
		Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size	Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size
in.	mm	in.	mm	mil size	Inside	Outside	mil size	in.	mm	mil size	Inside	Outside	mil size
2.0	50	1.5	37	5	47	55	3.3	2.1	53	7.5	37	64	5
2.5	64	1.6	41	5	58	70	3.3	2.3	59	7.5	49	78	5
3.2	81	2.0	52	7.5	70	92	5	2.9	75	7.5	60	102	7.5
4.0	102	2.7	69	7.5	88	116	5	3.9	100	10	74	131	7.5
5.2	133	3.4	85	10	107	159	7.5	4.8	123	10	88	161	10
7.5	190	4.8	122	15	137	243	10	6.9	175	15	115	265	15
11.8	300	7.6	192	20	185	400	15	10.9	277	20	224	427	20

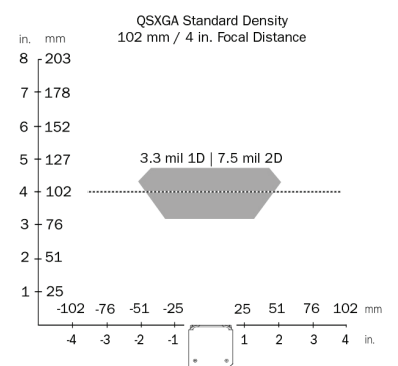
### Example Read Range:



## QSXGA Sensor Read Ranges

Focus Distance		QSXGA HIGH DENSITY						QSXGA STANDARD DENSITY					
		Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size	Field of View		Typical 2D Mil Size	Depth of Field (mm)		Min. 2D Mil Size
in.	mm	in.	mm	mil size	Inside	Outside	mil size	in.	mm	mil size	Inside	Outside	mil size
2.0	50	1.4	35	5	46	55	3.3	2.0	51	5	43	59	3.3
2.5	64	1.5	39	5	59	68	3.3	2.2	57	5	55	72	3.3
3.2	81	2.0	50	5	74	87	3.3	2.8	72	5	69	92	5
4.0	102	2.6	66	5	94	110	3.3	3.8	96	7.5	80	124	5
5.2	133	3.2	81	7.5	112	153	5	4.6	117	7.5	107	159	7.5
7.5	190	4.6	116	10	154	227	7.5	6.6	168	10	150	231	10
11.8	300	7.2	184	15	227	373	10	10.4	265	15	203	397	15

### Example Read Range:



**Note:** Minimum 1D element is typically 1/2 the size of minimum 2D element. Example: 10 mil 2D = 5 mil 1D.  
Specifications are subject to change. For complete technical information, please see the *MicroHAWK MV-20/MV-30/MV-40 Configuration Guide*, available at [www.microscan.com](http://www.microscan.com).