





Small Powerful Agile Intuitive **Simply Incredible** 











## 1982 Company Founded



100+ Technology Patents

Worldwide Offices



# Microscan: Barcode Reading At Its Best

Microscan provides today's industrial professionals with the most user-friendly barcode reading platforms, thoughtfully engineered to meet tomorrow's challenges. Our barcode readers enable faster, more accessible, and broader data communication in a wide range of applications.

As the inventor of the first laser diode barcode scanner, our company was founded on technology innovation and continues to be a technology leader today. Microscan holds one of the world's most extensive patent portfolios for barcode reading technology, including laser scanning, imaging technologies, hardware, and software.

Microscan is in a continuous process of research and development to provide cutting-edge technology and complete solutions for auto ID barcode applications. Today, we provide fast, reliable reading solutions for all symbologies. Our products read any linear barcode or 2D symbol printed or marked by any means, with a versatility and ease-of-use unprecedented in the industry.

Microscan products are sold and supported through a global network of partners and systems integrators who specialize in automation solutions. The network includes more than 300 experienced automation integrators and value-added resellers in over 30 countries who provide highly-specialized local support.





## MicroHAWK: Simply Incredible

Mini is now micro. Ease of use is now intuitive. Performance is now available in any configuration. Barcode reading is now simply incredible. Meet MicroHAWK, the next generation of industrial barcode readers. Built on the highest-performance imaging engine in its class, MicroHAWK barcode readers offer an array of modular hardware options to take on any decoding task in three micro form factors. No software to install, no compatibility obstacles, no experience needed. Just plug in and open a browser.





ID-20

**ID-30** 



- World's smallest industrial barcode readers
- Read any code on any surface
- User-friendly barcode reading platform
- Customizable hardware options

Features	ID-20	ID-30	ID-40
1D Omnidirectional Barcodes	•	•	•
1D/2D Barcodes	•	•	•
Damaged Barcodes	•	•	•
Direct Part Mark (DPM)		•	•
Enclosure	IP40	IP54	IP65
Ethernet TCP/IP, EtherNet/IP™			•
PROFINET I/0®			•
Ethernet over USB	•	•	
Serial (RS-232)		•	•
USB 2.0 High Speed / HID	•	•	
Power over Ethernet (PoE)			•
Outer Illumination		•	•
Liquid Lens Autofocus		•	•
Standard or High-Density	•	•	•
Color Sensor	•	•	•
High-Speed		•	•
WebLink User Interface	•	•	•

## **MicroHAWK Engine**



- Provides the full range of capabilities for all readers in the **MicroHAWK** family
- Smallest fully-integrated imaging engine available
- Lightweight, featurerich, and ready for easy integration into a wide range of instruments and machines

## Microscan's WebLink **User Interface**



- World's first web-based barcode reader interface
- No software to download or install
- Compatible with any USB or Ethernet MicroHAWK reader
- Set up, test, and control your reader from the browser of your choice





38.1 mm





44.5 mm

44.5 mm

## **MicroHAWK Readers** Can Decode:

- Directly-printed barcodes on labels
- Directly-marked Data Matrix including dot peen, laser etch, and ink jet
- Low contrast. scratched, or poorlyprinted barcodes
- Mix of 1D and 2D barcodes on a single part or package

## Incredibly Small

Designed specifically for integration into the tightest spaces, MicroHAWK barcode readers are the most compact, lightweight, and durable devices for tough industrial environments. The ID-40 is the world's smallest industrial IP65-rated barcode reader available. MicroHAWK readers include features such as integrated lighting and targeting LEDs, flexible cabling, omnidirectional reading, and adjustable read ranges from 50 to 300 mm (2 to 12 in.) or liquid lens autofocus to read codes at any variable range.



# Incredibly Powerful

When the ability to read challenging barcodes and marks is critical to success, count on MicroHAWK. Damaged and incomplete symbols are processed by X-Mode algorithms to render damaged symbols readable despite unpredictable print issues, scratches, or obstructions. For reliable decoding at the speed you need, MicroHAWK readers come standard with speeds up to 10 frames per second (FPS). High-Speed options are also available with speeds up to 60 FPS.











## Incredibly Agile

MicroHAWK offers nearly endless configurations in three micro-form-factor barcode readers. Sensor, speed, lighting, focus, and decoding power can be selected in any combination and packaged into the MicroHAWK reader of your choice with ideal dimensions, connectivity, and industrial rating to meet your requirements. Tailor the performance of these readers to meet the exact requirements of your barcode reading application for optimal size, connectivity, and cost-efficiency. From omnidirectional decoding of 1D barcodes to tough, low-contrast 2D symbols, any MicroHAWK reader can be engineered with the exact features you need.



SENSOR-

WVGA, SXGA

or OSXGA



DECODER: Standard, Plus, or X-Mode









Fixed or Autofocus

LIGHTING: Inner/Outer; Red or White LEDs

## Incredibly Intuitive

Experience is optional. MicroHAWK barcode readers are the easiest industrial devices to set up and install. Begin reading right out of the box within seconds. Just connect power to start decoding and open a browser to configure. Use a PC, laptop, tablet, or any device with a web browser to set up a reader and view decoded data and barcode images in real time using WebLink, Microscan's intuitive barcode reader interface. Make adjustments to reader settings without physical access to the reader itself. With the most intuitive controls of any barcode setup tool, WebLink finally brings the age of usability to industrial barcode reading.





Possible hardware/software combinations to solve ANY barcode application









- Ultra-compact (19.5 mm x 28.7 mm x 33.9 mm)
- USB 2.0 High Speed, Ethernet over USB
- X-Mode advanced decoding algorithms
- Integrated targeting and read/pass indicators
- Programmable red or white LED illumination
- WebLink browser-based setup interface

## AVAILABLE DECODERS

- Standard: High-contrast 1D barcodes
- Plus: High-contrast 1D/2D barcodes
- X-Mode: All 1D/2D, including damaged or poorly-printed barcodes

### AVAILABLE ILLUMINATION

 Inner: 8 LEDs come standard; programmable red or white

# ID-20 OEM Barcode Reader

The world's smallest full-featured and fully-integrated barcode imager, ID-20 offers OEMs and engineers a perfect set of value and performance options in a tiny, simple, and streamlined solution for embedded designs or WIP traceability.

ID-20, the only reader of its kind, offers a single-cable solution that uses USB for both communication (USB 2.0 High Speed and Ethernet over USB) and power to enable plug-and-play integration. Mini is now micro and incredibly easy to use.

PIN ASSIGNMENTS Micro-B USB Socket

Pin

1

2

3

4

5





## **APPLICATION EXAMPLES**

- Life sciences and clinical instrumentation
- Laboratory automation and dispensing
- Electronics assembly and test
- Kiosk and ticketing



4 3

5

D-

D+

NC

Ground

Function

Vbus (5V)

2 1

# ID-30 Miniature Barcode Reader

A micro-sized barcode imager with huge potential, the ID-30 furthers Microscan's 30+ year legacy of innovative, space-efficient, miniature design with a corner-exit cable and high-density 15-pin connector (offering serial, USB 2.0 High Speed, and Ethernet over USB capabilities) as well as optional liquid lens autofocus.

Perfect for OEMs and machine builders, the ID-30 offers the perfect combination of size, performance, and flexible integration. The ID-30 outperforms any reader in its class and is the ideal solution for automation engineers looking for incredible performance in a micro-sized product.



## **APPLICATION EXAMPLES**

- Clinical instruments:
  - Embedded barcode reading
  - Sample tracking and vial reading
- Medical devices:
  Dot peen or laser marks on products
- Electronics:
- Laser markings on PCBs
- Sub-assembly tracking
- Semiconductors:
  Laser marks on packages and components

PIN ASSIGNMENTS High-Density 15-Pin Dsub Socket

Pin	Function
1	+5VDC
2	TX232
3	RX232
4	GND
5	D+
6	N/C
7	Output 1+
8	Default+
9	Trigger+
10	D-
11	Output 3+
12	New Master+
13	Reserved
14	Output 2+
15	Vbus

Note: Accessory cable required between 15-pin socket and host USB port.





- Ultra-compact (44.5 mm x 38.1 mm x 25.4 mm)
- Serial, USB 2.0 High Speed, Ethernet over USB
- X-Mode advanced decoding algorithms
- Optional liquid lens autofocus
- Integrated targeting and read/pass indicators
- Programmable red or white LED illumination
- WebLink browser-based setup interface

### AVAILABLE DECODERS

- Standard: High-contrast
  1D barcodes
- Plus: High-contrast 1D/2D barcodes
- X-Mode: All 1D/2D, including low-contrast, damaged, or poorlyprinted barcodes; Direct Part Marks (DPM)

### AVAILABLE ILLUMINATION

- Inner: 8 LEDs come standard; programmable red or white
- Outer: 8 additional high-output LEDs are optional; available in red or white



- Ultra-compact (44.5 mm x 44.5 mm x 25.4 mm)
- High-speed Ethernet, serial (RS-232)
- X-Mode advanced decoding algorithms
- Optional liquid lens autofocus
- PROFINET I/O
- Power over Ethernet (PoE)
- Integrated targeting and read/pass indicators
- Programmable red or white LED illumination
- WebLink browser-based setup interface

## AVAILABLE DECODERS

- Standard: High-contrast 1D barcodes
- Plus: High-contrast 1D/2D barcodes
- X-Mode: All 1D/2D, including low-contrast, damaged or poorlyprinted barcodes; Direct Part Marks (DPM)

## AVAILABLE ILLUMINATION

- Inner: 8 LEDs come standard; programmable red or white
- Outer: 8 additional high-output LEDs are optional; available in red or white

## EtherNet/IP



## ID-40 Industrial Ethernet Barcode Reader

A revolutionary new product, the ID-40 redefines the imager market as the smallest IP65-rated, true-industrial Ethernet barcode reader. With best-in-class decoding for 1D/2D or DPM codes in a rugged, ultra-compact case, the ID-40 is the complete package for solving any barcode reading challenge under any condition.

Combining unprecedented ease-of-use, exceptional decode performance, optional liquid lens autofocus, and ultra-small form factor, the ID-40 sets the benchmark as the ultimate compact imager in the industry.







ETHE CONI M12	RNET NECTOR B 8-pin socke
Pin	Function
1*	V+
2*	V-



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

\*(24V Passive PoE Only, MODE B Only)

## **APPLICATION EXAMPLES**

- Assembly line manufacturing
- Component tracking
- Automotive: - Dot peen on powertrain components - Laser marks on automotive electronics
- Medical devices: - Laser marks on components
- Electronics: - Laser markings on PCBs
- Semiconductors: - Laser marks on packages and components



Note: Specifications are subject to change. For complete technical information, please see the User Manual available at www.microscan.com.

# WebLink User Interface

Set up, test, control, and monitor your MicroHAWK reader from the web browser of your choice using Microscan's WebLink user interface. Simply enter your reader's IP address on any web-enabled device and follow an intuitive setup process to gain access to reader controls.

Decode single, multiple, static, moving, printed, or directly marked codes, and even train the interface to adjust for challenging lighting conditions and damage. With WebLink, you can access any MicroHAWK reader's settings in real-time without software or physical adjustment of the camera.



Adjust and optimize the reader

Reader performance data

- World's first browserbased setup interface for industrial barcode reading
- No software to download or install
- One-click symbol training and optimization tools
- Best-in-class useability
- Real-time remote access to reader settings and results
- Automatic image storage from camera to external server
- Software Development Kit (SDK) for custom interfaces
- Common setup interface across all MicroHAWK readers

Data accuracy and reliability are critical for modern manufacturers. MicroHAWK barcode readers offer the widest range of hardware options available to meet any industrial need, all within a miniature form factor that has virtually unlimited integration potential.

With no software to install, and no compatibility obstacles, MicroHAWK solves the toughest barcoding challenges for manufacturers in a diverse range of applications and industries around the world.



### **ELECTRONICS**

- Component and PCB traceability
- Sub-assembly tracking
- Automated line changeover
- Quality assurance
- WIP tracking



#### PACKAGING:

- Match inserts to packaging
- Item traceability
- Quality assurance
- Anti-counterfeiting measures
- Package sortation
- Carton coding
- Print and apply



### **LIFE SCIENCES**

- Sample tracking
- Medical device tracking
- Test level traceability
- Vial reading and verification



## **OTHER INDUSTRIES:**

- Automotive
- Aerospace
- DoD and IUID
- Contract manufacturing
- Document handling
- Kiosks and self-service terminals

# Superior Barcode Reading for Any Industry

## **MicroHAWK Product Specifications**

	ID-20				ID-30		ID-40			
DECODER	Stand	lard (High-Con <sup>-</sup>	trast 1D)	Stand	ard (High-Con	trast 1D)	Standard (High-Contrast 1D)			
	Plus	(High-Contrast	1D/2D)	Plus (	High-Contrast	1D/2D)	Plus (High-Contrast 1D/2D)			
	(Poo	X-Mode r or Damaged	1D/2D)	(Poor or	X-Mode Damaged 1D,	/2D + DPM)	(Poor or	X-Mode Damaged 1D	/2D + DPM)	
SPEED	Sta	ndard (up to 1	.0 FPS)	Star	ndard (up to 1	.0 FPS)	Sta	ndard (up to 1 Speed (max s	.0 FPS)	
DENSITY	Star	ndard or High-I	Density	Star	idard or High-I	Density	Star	ndard or High-	Density	
SENSOR (CMOS)	WVGA 0.34MP (752x480)	SXGA 1.2MP (1280x960)	QSXGA 5MP (2592x1944)	WVGA 0.34MP (752x480)	SXGA 1.2MP (1280x960)	QSXGA 5MP (2592x1944)	WVGA 0.34MP (752x480)	SXGA 1.2MP (1280x960)	QSXGA 5MP (2592x1944)	
SHUTTER	GI	obal	Rolling	GI	obal	Rolling	GI	obal	Rolling	
FPS	60	42	5	60	42	5	60	42	5	
EXPOSURE		50 - 100,00 Default: 2,500	0 ) μs	[	50 - 100,00 Default: 2,500	0 ) µs	50 - 100,000 Default: 2,500 μs			
COLOR		QSXGA only	/		QSXGA only	/	QSXGA only			
FOCUS	F	ixed (50-300 i	mm)	F Liq	ixed (50-300 uid Lens Auto	mm) ofocus	Fixed (50-300 mm) Liquid Lens Autofocus			
CONNECTIVITY	U: Ethe	SB 2.0 High S ernet over USE	peed, 3 / HID	RS-232 Ethe	2, USB 2.0 Hig ernet over USE	gh Speed, 3 / HID	RS-232, Ethernet TCP/IP, EtherNet/IP, PROFINET I/O, Power over Ethernet (PoE)			
CONNECTOR		Micro-B USE	3	High	Density 15-Pi	n D-Sub	M12 12-Pin Power, M12 8-Pin Ethernet			
CABLE		N/A			0.91 m		N/A			
ILLUMINATION	Inner L	EDs: 4 White	and 4 Red	Inner L	EDs: 4 White	and 4 Red	Inner L	EDs: 4 White	and 4 Red	
		Outer LEDs: N	I/A	Oute Whi	r LEDs: 8 High ite or Red (Op	n-Output tional)	Outer LEDs: 8 High-Output White or Red (Optional)			
DISCRETE I/O		N/A		Trigger Inp 5VDC); N (0.16mA @ Outputs (1 can sink	3 in/3 out out: 5-28V rate ew Master: 5 f 5VDC); Defau (0mA @ 3.3V c, 2, 3): 5V TTL 10mA and so	ed (0.16mA @ to 28V rated ult: 3.3V rated /) compa tible, purce 10mA	3 in/3 out, Optoisolated Trigger Input; New Master: Bi-directional, opto-isolated, 4.5-28V rated (10mA @ 28VDC) Outputs (1, 2, 3): Bi-directional, opto- isolated, 1-28V rated (ICE < 100mA at 24VDC, current limited by user)			
ELECTRICAL	35	5 VDC ± 5 % 0 mA at 5 VDC	6, C (typ.)	600	5 VDC ± 5 % 0 mA at 5 VDC	6, C (typ.)	4.75-3 ripple, :	0 VDC, 200 m 150 mA at 24	V p-p max VDC (typ.)	
DIMENSIONS	24 n	nm x 34 mm x	39 mm	25 m	ım x 45 mm x	38 mm	25 n	nm x 45 mm x	45 mm	
WEIGHT		26 g		46	g (Excluding (	Cable)		68 g		
ENCLOSURE		IP40, Plasti	С		IP54, Aluminu	um	IP65, Aluminum			
INDICATORS	Goo	Target Patter od Read Greer	n, n Flash	Goo	Target Patter d Read Green Performance I	n, Flash, EDs	Target Pattern, Good Read Green Flash, Performance LEDs			

#### 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 40° C (32° to 104° F) Storage Temp.: -50° to 75° C (-58° to 167° F) Humidity: 5% to 95% (non-condensing) EMISSIONS: EN 55022:2010 Class A Limits SAFETY & QUALITY: FCC, CE, RoHS Compliant QMS Certification: www.microscan.com/quality

Note: Specifications are subject to change. For complete technical information, please see the User Manual available at www.microscan.com.

## **MicroHAWK Product Specifications**

				WVGA HI	GH DEN	SITY		WVGA STANDARD DENSITY						
Foo Dista	al ance	Fi of ۱	eld /iew	Typical 2D Mil Size	Depth (n	of Field nm)	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	

## WVGA Sensor Read Ranges

## **Example Read Range:**



## **SXGA Sensor Read Ranges**

				SXGA HI	GH DEN	SITY		SXGA STANDARD DENSITY						
Foo Dista	al Ince	Fi of \	eld /iew	Typical 2D Mil Size	Depth (n	of Field nm)	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 (5MP) Sensor Read Ranges**

			1											
				QSXGA H	IGH DEN	ISITY		QSXGA STANDARD DENSITY						
Foo Dista	cal ance	Fi of \	eld /iew	Typical 2D Mil Size	Depth (n	of Field nm)	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 size of minimum 2D element (example: 10 mil 2D = 5 mil 1D). Specifications are subject to change. For complete technical information, please see the User Manual available at www.microscan.com.



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