

QX HAWK



灵活的工业用影像扫描仪 为自动识别量身打造

QX Hawk 是世界上首款与液体透镜技术完美集成的影像扫描仪，使灵活调节无限聚焦成为现实。QX Hawk 采用高分辨率的模块化光学变焦系统、极具效率的 X-Mode 解码技术以及简单的即插即用式连接，实现了易用性与高性能的统一。QX Hawk 影像扫描仪可在任何环境中、在安装的数秒时间内轻松读取任意条形码或二维标签，包括难以辨认的二维直接部件标记 (DPM)。

QX Hawk: 简介

- 每秒解码次数：最多 60 次
- 读取范围：随型号而定
- 液体透镜自动对焦和模块化变焦
- 集成式以太网
- 配置选项：0.4MP CMOS 或 1.3MP CCD

ESP 简易设置程序：单点软件解决方案为所有 Microscan 阅读器提供迅速、简便的设置和配置。

EZ 按钮：此按钮可以无需计算机而执行阅读器的设置和配置操作。

GOOD READ 可见指示灯：性能指示灯包括“有效读取”的绿色闪光和 LED 指示灯。

QX 平台：快速连接系统与 X-Mode 技术相结合，提供简单的连接、网络通信和高性能的解码能力。

有关本产品的详细信息，请访问 www.microscan.com。

解码任意标签

凭借同类最佳的 X-Mode 解码算法，QX Hawk 可始终如一地捕获任何对象，从低对比度、受损的或其它难以辨认的直接部件标记到高密度的 3.3 mil 数据矩阵，再到极大型的线性条码，无不应付自如。

强大的性能

QX Hawk 采用双核 ARM/DSP 处理器，可实现高速影像捕获以及实时配置和通信。其嵌入式高速处理能力以及直接来自阅读器的三个高速输入/输出端，使得 QX Hawk 能够提供线路级别的控制功能。

易于使用

QX Hawk 体积小、便于安放；除此之外，它还具有可见 LED 指示灯、定位激光模式、“有效读取”的绿色闪光以及用于即时设置和配置的 EZ 按钮。

高级光学系统

高级成像技术包含高分辨率模块化光学变焦系统，使 QX Hawk 能够从 20 毫米到 800 毫米甚至更远的距离处读取标记。结合液体透镜自动变焦功能（正在申请专利），QX Hawk 几乎可在任何自动识别应用场合中应付自如。

以太网协议

QX Hawk 包括集成式以太网协议以用于高速通信。

牢固的设计

QX Hawk 采用牢固的工业设计，具有 IP65/67 铸造合金外壳以及 M12 连接器。

应用实例

- 印刷电路板
- 电子产品和半导体制造
- 汽车制造
- 航空航天
- 医疗设备

QX Hawk: 可读码

线性码 所有标准 邮政编码

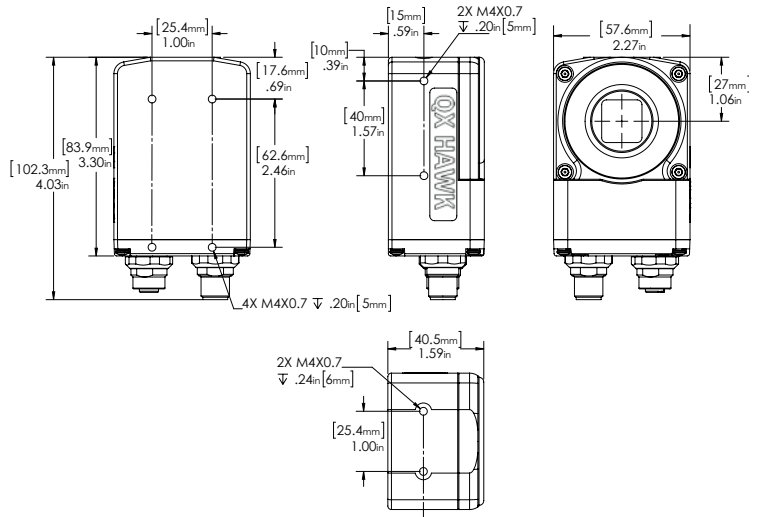
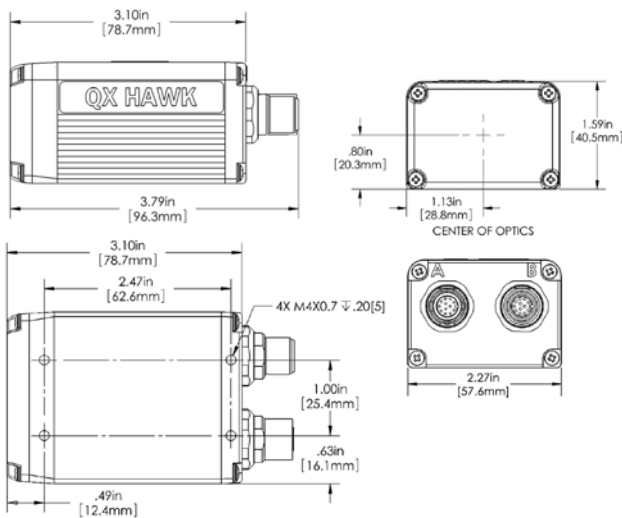
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QX HAWK FLEXIBLE, INDUSTRIAL IMAGER

SPECIFICATIONS AND OPTIONS



NOTE: Nominal dimensions shown. Typical tolerances apply. For Integrated Optics Model Read Range charts and information, see Page 3.

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
CMOS Operating Temperature: 0° to 50° C (32° to 122° F)
CCD Operating Temperature: 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-232/422/485 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



SYMBOLOLOGIES

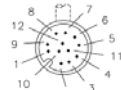
2D Symbolologies: Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code
Stacked Symbolologies: PDF417, Micro PDF417, GS1 Databar (Composite & Stacked)
Linear Barcodes: Code 39, Code 128, BC 412, I2 of 5, UPC/EAN, Codabar, Code 93, Pharmacode, PLANET, PostNet, Japanese Post, Australian Post, Royal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

LIGHT COLLECTION OPTIONS

Progressive scan, square pixel.
Shutter: Software adjustable 10 μ s to 1/60 second
Sensor: 1/3 inch
WVGA: CMOS, 752 by 480 pixels, up to 60 fps
SXGA: CCD, 1280 by 960 pixels, up to 20 fps

PIN ASSIGNMENTS

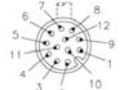
CONNECTOR A M12 12-pin plug:



Pin Assignment

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

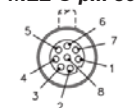
CONNECTOR B M12 12-pin socket:



Pin Assignment

9	TxD/RTS
10	RxD/CTS
2	Power
7	Ground
1	Trigger
8	Input Common
3	Terminated
4	Input 1
5	422/485 TxD (+)
11	422/485 TxD (-)
6	422/485 RxD (+)
12	422/485 RxD (-)

ETHERNET CONFIGURATION CONNECTOR B M12 8-pin socket:



Pin Assignment

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

INDICATORS

LEDs: Read Performance, Power, Read Status, Network activity, I/O **Beeper:** Good read, match/mismatch, noread, serial command confirmation, on/off

INTEGRATED OPTICS MODEL ONLY:

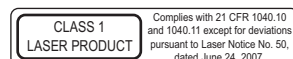
Green Flash: Good read **Red X:** Symbol locator

READ PARAMETERS

Pitch: $\pm 30^\circ$ **Skew:** $\pm 30^\circ$ **Tilt:** 360°
CMOS Decode Rate: Up to 60 decodes per second
CCD Decode Rate: Up to 20 decodes per second

LASER LIGHT (INTEGRATED OPTICS)

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



PROTOCOLS

Point-to-Point, Point-to-Point w/RTS/CTS, Point-to-Point w/XON/XOFF, Point-to-Point w/RTS/CTS & XON/XOFF, Multidrop, Daisy Chain, User-Defined Multidrop, Ethernet TCP/IP, EtherNet/IP

ELECTRICAL

CMOS Power Requirement: 5-28 VDC, 200 mV p-p max ripple, 135 mA at 24 VDC (typ.)
CCD Power Requirement: 5-28 VDC, 200 mV p-p max ripple, 170 mA at 24 VDC (typ.)

DISCRETE I/O

Input 1/Trigger/New Master: 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)

SAFETY CERTIFICATIONS

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

ROHS/WEEE COMPLIANT

ISO CERTIFICATION

Certified ISO 9001:2008 Quality Management System

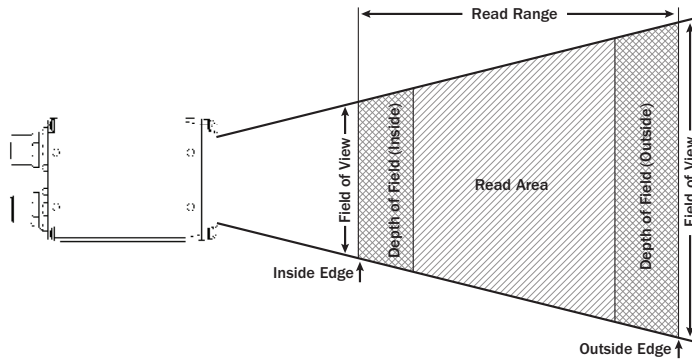
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 Read Range and other performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25° C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty**—For current warranty information on this product, please visit www.microscan.com/warranty.

MICROSCAN®

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QX HAWK FLEXIBLE, INDUSTRIAL IMAGER

SPECIFICATIONS AND OPTIONS



INTEGRATED OPTICS MODEL: CMOS MODULAR ZOOM OPTICS

Inches (mm)

12°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.0033 (0.08)	0.005 (0.13)	3.4 to 6 (86 to 152)	0.9 (23)	1.42 (36)	0.2 (5)	0.4 (10)
	0.0075 (0.19)	0.010 (0.25)	3.3 to 12.2 (83 to 310)	0.9 (23)	2.62 (66)	0.4 (10)	1.5 (38)
	0.0150 (0.38)	0.020 (0.51)	3.3 to 13 (82 to 330)	0.9 (23)	2.77 (70)	0.5 (13)	3.5 (89)
	0.0350 (0.89)	0.050 (1.27)	4 to 16 (101 to 406)	1.03 (26)	3.34 (85)	0.7 (18)	6.5 (165)

15°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		At Inside Edge	At Outside Edge	Inside Edge	Outside Edge
	0.0033 (0.08)	0.005 (0.13)	1.9 to 5 (48 to 127)	0.75 (19)	1.53 (39)	0.3 (6)	0.4 (10)
	0.0075 (0.19)	0.010 (0.25)	1.8 to 8 (46 to 203)	0.72 (18)	2.28 (58)	0.4 (10)	1 (25)
	0.0150 (0.38)	0.020 (0.51)	1.75 to 9 (44 to 229)	0.72 (18)	2.52 (64)	0.5 (13)	3 (76)
	0.0350 (0.89)	0.050 (1.27)	3 to 10.8 (76 to 274)	1.03 (26)	2.96 (75)	0.6 (15)	4 (101)

30°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.0033 (0.08)	0.005 (0.13)	1 to 3 (25 to 76)	0.83 (21)	1.8 (46)	0.4 (10)	0.8 (20)
	0.0075 (0.19)	0.010 (0.25)	1 to 6.5 (25 to 165)	0.83 (21)	3.5 (89)	0.8 (20)	1.8 (46)
	0.0150 (0.38)	0.020 (0.51)	1 to 16 (25 to 406)	0.83 (21)	8.3 (211)	2 (51)	8.5 (216)
	0.0350 (0.89)	0.050 (1.27)	2 to 32 (51 to 813)	1.3 (33)	16.4 (417)	3 (76)	21.5 (546)

45°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.0075 (0.19)	0.010 (0.25)	1 to 5 (25 to 127)	1.3 (33)	4.1 (104)	1.5 (38)	2 (51)
	0.0150 (0.38)	0.020 (0.51)	1 to 9.5 (25 to 241)	1.3 (33)	7.5 (191)	2 (51)	6 (152)
	0.0350 (0.89)	0.050 (1.27)	1 to 23.5 (25 to 597)	1.3 (33)	18.3 (465)	3.8 (97)	19 (483)

NOTE: Read ranges are for specific element sizes as listed in the tables.

INTEGRATED OPTICS MODEL: CCD MODULAR ZOOM OPTICS

Inches (mm)

12°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.002 (0.05)	0.0033 (0.08)	3.5 to 7 (87 to 178)	0.9 (23)	1.62 (41)	0.1 (3)	0.3 (8)
	0.005 (0.13)	0.0075 (0.19)	3.4 to 12 (86 to 304)	0.9 (23)	2.62 (66)	0.2 (5)	1 (25)
	0.010 (0.25)	0.0150 (0.38)	3.3 to 13 (83 to 330)	0.9 (23)	2.77 (70)	0.4 (10)	2.5 (64)
	0.020 (0.51)	0.0300 (0.76)	4 to 14 (101 to 355)	1.03 (26)	2.96 (75)	0.6 (15)	5 (127)

15°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		At Inside Edge	At Outside Edge	Inside Edge	Outside Edge
	0.002 (0.05)	0.0033 (0.08)	2 to 5 (51 to 127)	0.78 (20)	1.53 (39)	0.2 (5)	0.4 (10)
	0.005 (0.13)	0.0075 (0.19)	1.9 to 8.3 (48 to 210)	0.75 (19)	2.35 (60)	0.3 (8)	1 (25)
	0.010 (0.25)	0.0150 (0.38)	1.9 to 9.5 (47 to 241)	0.75 (19)	2.65 (67)	0.5 (13)	3 (76)
	0.020 (0.51)	0.0300 (0.76)	3 to 10.3 (76 to 261)	1.03 (26)	2.84 (72)	0.6 (15)	4.5 (114)

30°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.002 (0.05)	0.0033 (0.08)	1 to 3 (25 to 76)	0.83 (21)	1.8 (46)	0.4 (10)	0.8 (20)
	0.005 (0.13)	0.0075 (0.19)	1 to 6.5 (25 to 165)	0.83 (21)	3.5 (89)	0.8 (20)	1.8 (46)
	0.010 (0.25)	0.0150 (0.38)	1 to 16 (25 to 406)	0.83 (21)	8.3 (211)	2 (51)	8.5 (216)
	0.020 (0.51)	0.0300 (0.76)	2 to 32 (51 to 813)	1.3 (33)	16.4 (417)	3 (76)	21.5 (546)

45°	Narrow-bar-width		Read Range (using autofocus)	Field of View		Depth of Field	
	1D	2D		Inside Edge	Outside Edge	Inside Edge	Outside Edge
	0.005 (0.13)	0.0075 (0.19)	1 to 5 (25 to 127)	1.3 (33)	4.1 (104)	1.5 (38)	2 (51)
	0.010 (0.25)	0.0150 (0.38)	1 to 9.5 (25 to 241)	1.3 (33)	7.5 (191)	2 (51)	6 (152)
	0.020 (0.51)	0.0300 (0.76)	1 to 23.5 (25 to 597)	1.3 (33)	18.3 (465)	3.8 (97)	19 (483)

NOTE: Read ranges are for specific element sizes as listed in the tables.

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