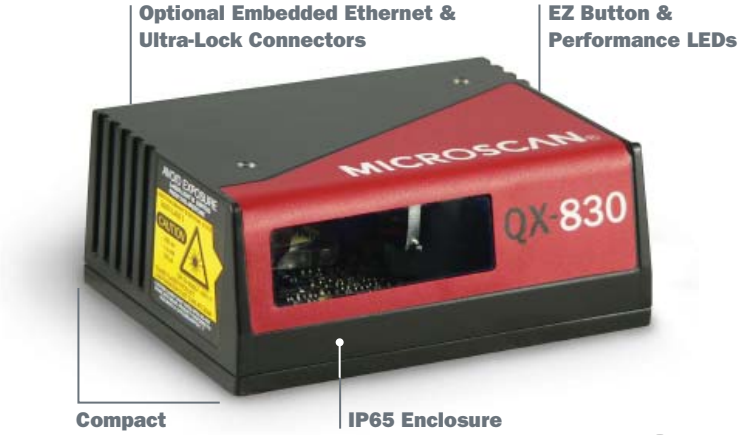
QX-830



Compact Industrial Laser Scanner

The QX-830 laser scanner combines flexible connectivity with high performance decoding capabilities to reliably read 1D bar codes in almost any automation environment. In addition to the Quick Connect System and X-Mode Technology, the QX-830 features IP65 industrial sealing and optional embedded Ethernet protocols.

High performance, simple connectivity, and the highest quality enclosure make the QX-830 an ideal laser scanner for any industrial application.

QX–830: At a Glance

- *Scans/second: 300 to 1400*
- *Read Range: 1 to 37" (25 to 940 mm)*
- *Optional Embedded Ethernet TCP/IP & EtherNet/IP*
- *IP65 Enclosure*

ESP® Easy Setup Program: Single-point software solution provides quick and easy setup and configuration of all Microscan readers.

EZ Button: This performs reader setup and configuration with no computer required.

Visible Indicators: Performance indicators include "good read" green flash and LEDs.

QX Platform: Quick Connect system and X-Mode technology combine to provide high performance connectivity, networking, and decoding.

For more information on this product, visit www.microscan.com.

Quick Connect System
The innovative Quick Connect System includes M12 Ultra-Lock™ connectors and cordsets for plug-and-play setup of single or multi-reader solutions.

X-Mode Technology
Symbol reconstruction provides decoding of damaged, poorly printed, or poorly aligned 1D bar codes to ensure high read rates and throughput.

High Performance
Aggressive decoding capabilities allow reliable reading of bar codes out to 37" (94 cm), at up to a 10" (25.4 cm) beam width.

Real-time Feedback
Visible LED indicators on the side of the scanner and a "good read" green flash projecting from the front window provide confirmation of the scanner's performance. The green flash is visible within a complete 360 degree radius from the scanner.

Ethernet Protocols
The QX-830 includes optional embedded Ethernet TCP/IP and EtherNet/IP for high speed communication.

Flexibility
The compact size of the QX-830 allows flexible positioning for a variety of applications.

Application Examples
- Any industrial environment from light to heavy duty
- Conveyor lines
- Packaging and sortation
- Electronics production
- Embedded within machinery

QX–830: Available Codes

Linear — All Standard

Stacked — MicroPDF, PDF417, GS1 Databar

MICROSCAN®

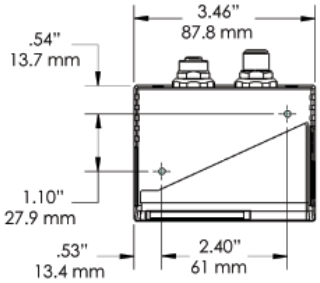
QX–830 Compact Industrial Laser Scanner

Specifications and Options

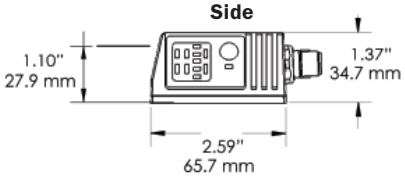
MECHANICAL

Depth: 2.59" (66 mm)
Width: 3.47" (88 mm)
Height: 1.38" (35 mm)
Weight: 7.5 oz. (212 g)

Top

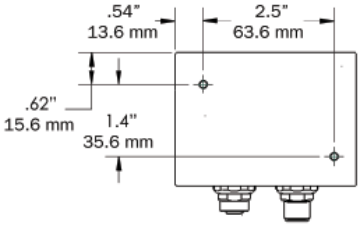


Side



Back

Bottom



ENVIRONMENTAL

Enclosure: Die-cast aluminum, IP65 rated
Operating temperature: 0° to 50°C (32° to 122°F)
Storage Temperature: –29° to 70°C (-20° to 158°F)
Humidity: Up to 90% (non-condensing)

EMISSIONS

Heavy industrial: EN 61000-6-2:2005
Radiated emissions: EN 55022:2006 Class A 30-1000 MHz
Conducted emissions: EN 55022:2006 Class A .15-30 MHz

COMMUNICATION INTERFACE

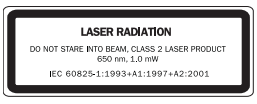
Interface: RS-232/422/485 or Ethernet

SYMBOLOGIES

Standard offering: Code 39, Codabar, Code 93, Interleaved 2 of 5, Code 128, PDF417, Micro PDF417, Pharmacode, UPC, GS1 Databar **Applications standards:** UCC/EAN-128, AIAG

LASER LIGHT

Type: Laser diode
Output wavelength: 655 nm nominal
Operating life: 50,000 hours @ 25°C
Safety class: Visible laser: CDRH Class II, 655 nm



READ RANGES[1]

LOW DENSITY RANGE DATA

Narrow-bar-width	Read Range
.0075" (.191 mm)	10 to 12" (254 to 305 mm)
.010" (.254 mm)	7 to 16" (178 to 406 mm)
.015" (.381 mm)	6 to 19" (152 to 483 mm)
.020" (.508 mm)	5 to 22" (127 to 558 mm)
.040" (1.02 mm)	4 to 30" (102 to 762 mm)

MEDIUM DENSITY RANGE DATA

.0075" (.191 mm)	2 to 5.2" (51 to 132 mm)
.010" (.254 mm)	1.5 to 7.0" (38 to 178 mm)
.015" (.381 mm)	1.5 to 8.5" (38 to 216 mm)
.020" (.508 mm)	1.5 to 11" (38 to 280 mm)
.030" (.762 mm)	1.0 to 12" (25 to 304 mm)

HIGH DENSITY RANGE DATA

.0033" (.084 mm)	Call Microscan
.005" (.127 mm)	4 to 5.0" (102 to 127 mm)
.0075" (.191 mm)	3.5 to 6.75" (89 to 171 mm)
.010" (.254 mm)	3.25 to 8" (82 to 203 mm)
.015" (.381 mm)	3.25 to 9" (82 to 228 mm)1

[1]Ranges based on a Grade A, Code 39 label. If your read range falls outside the above ranges, please call Microscan. Data subject to change.

SCANNING PARAMETERS

Mirror type: Rotating, 10-faceted
Optional raster mirror image: 10 raster scan lines over a 2° arc (or 0.500" raster height at 8" (203 mm) distance)
Scan rate: Adjustable from 300 to 1400 scans/sec. **Scan width angle:** Typically 60°
Pitch: ±50° max. **Skew:** ±40° max.
Label contrast: 25% min. absolute dark to light differential at 655 nm wavelength

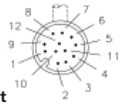
PROTOCOLS

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

PIN ASSIGNMENTS

CONNECTOR A

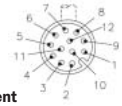
M12 12-pin plug:
Port 1 - RS-232



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:
Port 2 - RS-232
Port 3 - RS-422/485



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

ETHERNET CONFIGURATION CONNECTOR B

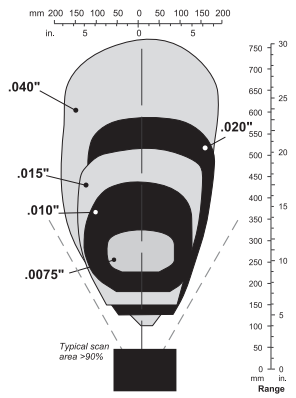
M12 8-pin socket
Port 4 - Ethernet

Pin	Assignment
1	Terminated
2	Terminated
3	Terminated
4	Port 4 TX (–)
5	Port 4 RX (+)
6	Port 4 TX (+)
7	Terminated
8	Port 4 RX (–)

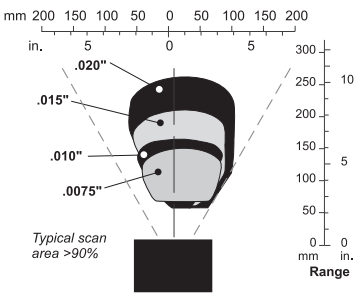
ELECTRICAL

Power requirement: 10–28 VDC, 200 mV p-p max ripple, 180mA at 24 VDC (typ.)

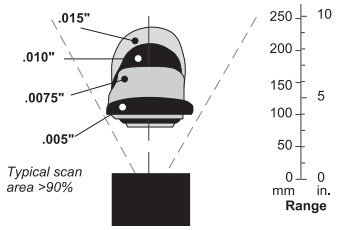
Low Density Scan Width



Medium Density Scan Width



High Density Scan Width



Note: Data subject to change.

DISCRETE I/O

Input 1: (Trigger/New Master): Optoisolated, 4.5–28V rated, (13 mA at 24 VDC) New Master is (–) to signal ground
Outputs (1, 2 & 3): 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)

ISO 9001:2000 **Certified QMS**

ROHS/WEEE COMPLIANT

ISO CERTIFICATION

Issued by TüV USA Inc, Member of TÜV NORD Group, Cert No. 06–1080

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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–**One year limited warranty on parts and labor. Extended warranty available.

MICROSCAN®

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