QX-830

M12 Connectors & Optional Embedded Ethernet

EZ Button & Performance LEDs

Compact Shape/Size

IP64 Enclosure

RoHS • WEEE COMPLIANT

Compact Industrial Laser Scanner

The QX-830 laser scanner combines flexible connectivity with high performance decoding capabilities to reliably read 1D barcodes in almost any automation environment. In addition to the Quick Connect System and X-Mode Technology, the QX-830 features IP64 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 30" (25 to 762 mm)*
- *Optional Embedded Ethernet TCP/IP & EtherNet/IP*
- *IP64 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 simple connectivity, networking, and high performance decoding.

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

QX-830: Available Codes

Linear

All Standard

Stacked

MicroPDF   PDF417   GS1 Databar

Quick Connect System
- M12 connectors and cordsets
- Plug and play setup
- Single or multi-scanner solutions

X-Mode Technology
- Decodes damaged, poorly printed, or misaligned codes
- Ensures high read rates and throughput

High Performance
Aggressive decoding capabilities allow reliable reading of barcodes out to 30" (762 mm), at up to a 10" (254 mm) 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.
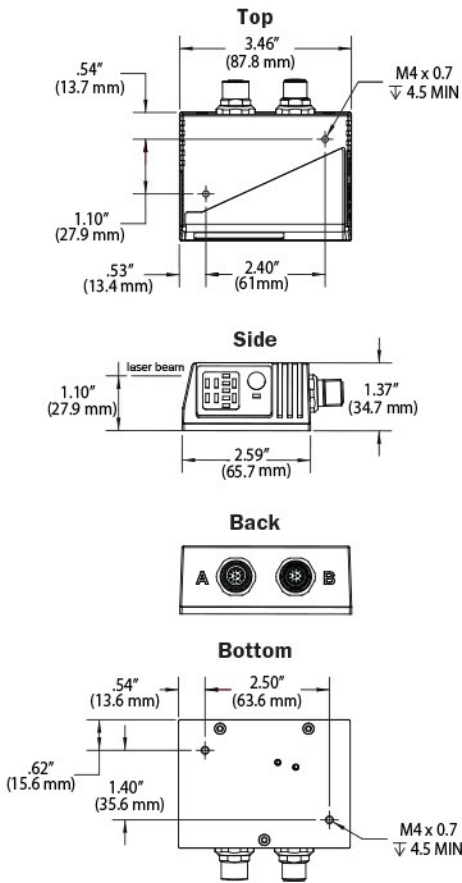
Application Examples
- Any industrial environment from light to heavy duty
- Conveyor lines
- Packaging and sortation
- Electronics production
- Embedded within machinery

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
.54" (13.7 mm)
M4 x 0.7 ▽ 4.5 MIN
3.46" (87.8 mm)
1.10" (27.9 mm)
.53" (13.4 mm)
2.40" (61mm)

Side
laser beam
1.10" (27.9 mm)
1.37" (34.7 mm)
2.59" (65.7 mm)

Back
A B

Bottom
.54" (13.6 mm)
2.50" (63.6 mm)
.62" (15.6 mm)
1.40" (35.6 mm)
M4 x 0.7 ▽ 4.5 MIN

ENVIRONMENTAL
Enclosure: Die-cast aluminum, IP64 rated
Operating Temperature: 0° to 50° C (32° to 122° F)
Storage Temperature: -50° to 75° C (-58° to 167° F)
Humidity: Up to 90% (non-condensing)

EMISSIONS
Heavy Industrial: EN 61000-6-2:2005
Radiated Emissions: EN 55022:2006 Class B 30-1000 MHz
Conducted Emissions: EN 55022:2006 Class B .15-30 MHz

COMMUNICATION INTERFACE
Interface: RS-232/422/485 or Ethernet

SYMBOLOGIES
Standard: Code 39, Codabar, Code 93, Interleaved 2 of 5, Code 128, PDF417, Micro PDF417, Pharmacode, UPC, GS1 Databar
Applications Standard: 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: Class 2

LASER RADIATION
DO NOT STARE INTO BEAM, CLASS 2 LASER PRODUCT
655nm 1.75mW 40–186µs
IEC 60825-1 Ed. 2 (2007)

READ RANGES[1]

LOW DENSITY RANGE DATA

Narrow-bar-width	Read Range
.0075" (0.191 mm)	10 to 12" (254 to 305 mm)
.010" (0.254 mm)	7 to 16" (178 to 406 mm)
.015" (0.381 mm)	6 to 19" (152 to 483 mm)
.020" (0.508 mm)	5 to 22" (127 to 558 mm)
.040" (1.02 mm)	4 to 30" (102 to 762 mm)

MEDIUM DENSITY RANGE DATA

.0075" (0.191 mm)	2.5 to 5.5" (64 to 140 mm)
.010" (0.254 mm)	1.5 to 7.0" (38 to 178 mm)
.015" (0.381 mm)	1.5 to 8.5" (38 to 216 mm)
.020" (0.508 mm)	1.5 to 11" (38 to 280 mm)
.030" (0.762 mm)	1.0 to 12" (25 to 304 mm)

HIGH DENSITY RANGE DATA

.0033" (0.084 mm)	Call Microscan
.005" (0.127 mm)	4 to 5.0" (102 to 127 mm)
.0075" (.0191 mm)	3.5 to 6.75" (89 to 171 mm)
.010" (0.254 mm)	3.25 to 8" (82 to 203 mm)
.015" (0.381 mm)	3.25 to 9" (82 to 228 mm)

[1]Ranges based on a Grade A, Code 39 label, at 500 scans per second. 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; default is 500 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
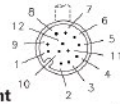
PROTOCOLS
Point-to-Point, Point-to-Point w/RTS/CTS, Point-to-Point w/XON/XOFF, Point-to-Point w/RTS/CTS & XON/XOFF, Multidrop, Daisy Chain, User-Defined Multidrop, Ethernet TCP/IP, EtherNet/IP
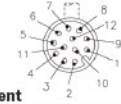
PIN ASSIGNMENTS
CONNECTOR A
M12 12-pin plug:

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 (−)

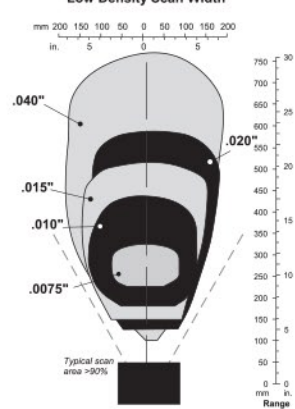### ETHERNET CONFIGURATION CONNECTOR B
M12 8-pin socket

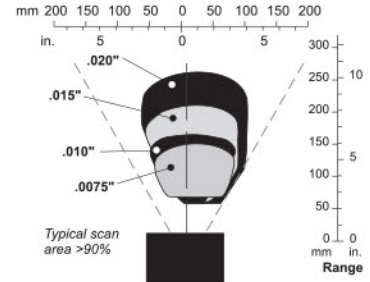| Pin	Assignment
1	Terminated
2	Terminated
3	Terminated
4	TX (−)
5	RX (+)
6	TX (+)
7	Terminated
8	RX (−)

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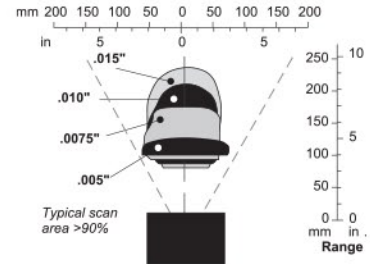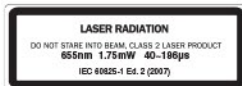**Power Requirement:** 10–28 VDC, 200 mV p-p max ripple, 180mA at 24 VDC (typ.)

Low Density Scan Width
mm 200 150 100 50 0 50 100 150 200
in. 5 0 5
.040"
.020"
.015"
.010"
.0075"
Typical scan area >90%
Range

Medium Density Scan Width
mm 200 150 100 50 0 50 100 150 200
in. 5 0 5
.020"
.015"
.010"
.0075"
Typical scan area >90%
Range

High Density Scan Width
mm 200 150 100 50 0 50 100 150 200
in 5 0 5
.015"
.010"
.0075"
.005"
Typical scan area >90%
Range

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)

QMS CERTIFICATION
www.microscan.com/quality

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