

## QX-830



## 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 IP54 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
- IP54 Enclosure

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

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

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

**QX** 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](http://www.microscan.com).

### QX-830: Available Codes



#### 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

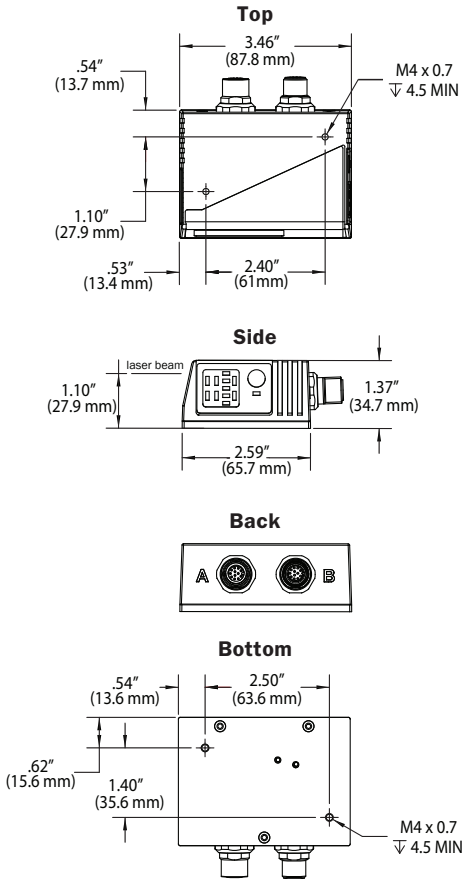
- Any industrial environment from light to heavy duty
- Conveyor lines
- Packaging and sortation
- Electronics production
- Embedded within machinery

# 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)



### READ RANGES<sup>1</sup>

#### 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 Omron Microscan
.005" (0.127 mm)	4 to 5.0" (102 to 127 mm)
.0075" (0.191 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)

<sup>1</sup>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

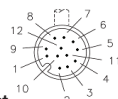
### PROTOCOLS

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

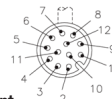
**M12 12-pin plug:**



Pin	Assignment
9	Host Rx/D
10	Host Tx/D
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:**

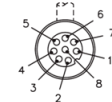


Pin	Assignment
9	TxD/RTS
10	RxD/CTS
2	Power
7	Ground
1	Trigger
8	Input Common
3	Terminated
4	Input 1
5	422/485 TxD (+)
11	422/485 TxD (-)
6	422/485 RxD (+)
12	422/485 RxD (-)

### 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.)

### ENVIRONMENTAL

**Enclosure:** Die-cast aluminum, IP54 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

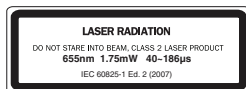
**Interface:** RS-232/422/485 or Ethernet

### SYMBOLOGIES

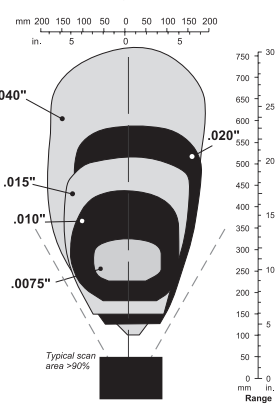
**Standard:** Code 39, Codabar, Code 93, Interleaved 2 of 5, Code 128, PDF417, Micro PDF417, Pharmacode, UPC, GS1 Databar  
**Applications Standard:** UCC/EAN-128, AIAG

### LASER LIGHT

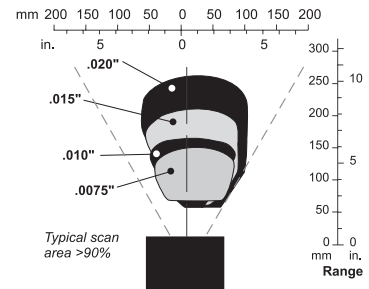
**Type:** Laser diode  
**Output Wavelength:** 655 nm nominal  
**Operating Life:** 50,000 hours @ 25° C  
**Safety Class:** Visible laser: Class 2



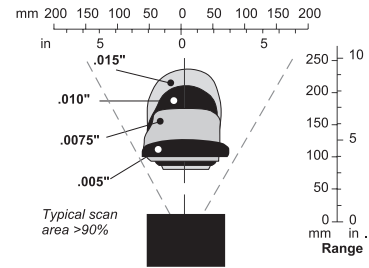
#### Low Density Scan Width



#### 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<sub>CE</sub> <100 mA at 24 VDC, current limited by user)<sup>CE</sup>

### QMS CERTIFICATION

[www.microscan.com/quality](http://www.microscan.com/quality)

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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 results, testing should be performed with symbols used in the actual application. Omron 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](http://www.microscan.com/warranty).

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