QX–830

Optional Embedded Ethernet & Ultra-Lock Connectors

EZ Button & Performance LEDs

Compact Shape/Size

IP65 Enclosure

RoHS • WEEE COMPLIANT

Industrial Compact Laser Scanner

The QX-830 laser scanner combines revolutionary 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 IP65 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
LED illumination on the side of the scanner and a "good read" green flash projecting from the front window provide visual 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 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
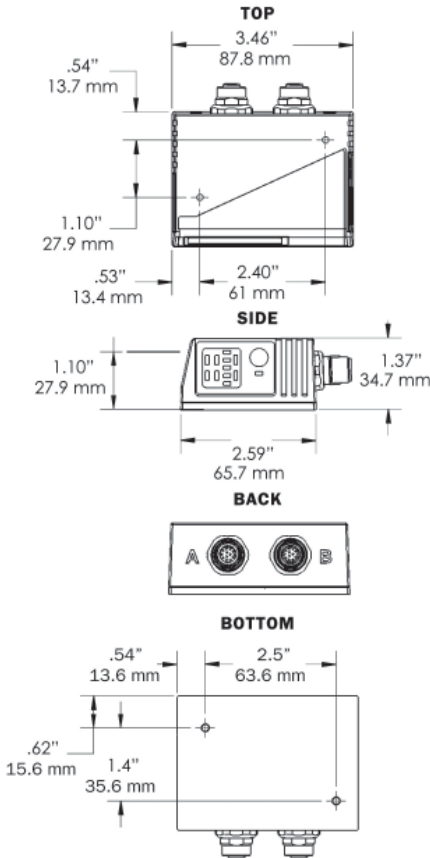- Electronics production
- Embedded within machinery

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
3.46"
87.8 mm
.54"
13.7 mm
1.10"
27.9 mm
.53"
13.4 mm
2.40"
61 mm

SIDE
1.10"
27.9 mm
1.37"
34.7 mm
2.59"
65.7 mm

BACK
A   B

BOTTOM
.54"
13.6 mm
2.5"
63.6 mm
.62"
15.6 mm
1.4"
35.6 mm

ENVIRONMENTAL
Enclosure: Die-cast aluminum, IP65 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 A 30-1000 MHz
Conducted emissions: EN 55022:2006 Class A .15-30 MHz

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

LASER LIGHT
Type: Laser diode
Output wavelength: 655 nm nominal
Operating life: 50,000 hours @ 25°C
Safety class:
Visible laser: CDRH Class II, 650 nm

LASER RADIATION
DO NOT STARE INTO BEAM, CLASS 2 LASER PRODUCT
650 nm, 1.0 mW
IEC 60825-1:1993+A1:1997+A2:2001

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

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

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

PIN ASSIGNMENTS
CONNECTOR A
M12 12-pin plug:
Port 1 - RS-232

1	Trigger
2	Power
3	New Master
4	Trig/NM/Input1 Common
5	Output 1
6	Output 3
7	Ground
8	Default
9	Port1 RxD
10	Port1 TxD
11	Output 2
12	Output Common

CONNECTOR B
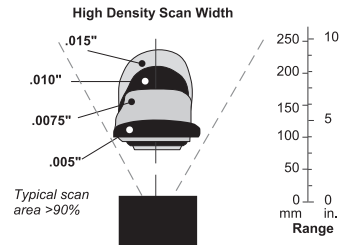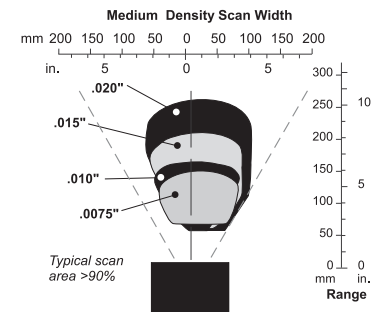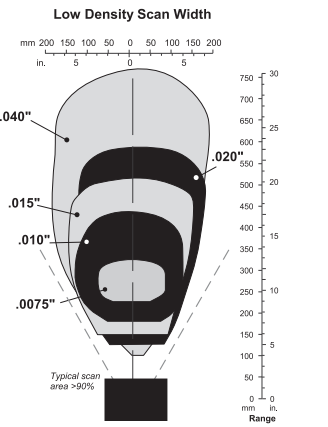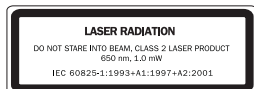*M12 12-pin socket:*
Port 2 - RS-232
Port 3 - RS-422/485

1	Trigger
2	Power
3	Port3 422/485 TxD (–)
4	Trig/NM/Input1 Common
5	Input1
6	Port3 422/485 RxD (+)
7	Ground
8	N/A
9	Port2 TxD / Port1 RTS
10	Port2 RxD / Port1 CTS
11	Port3 422/485 RxD (+)
12	Port3 422/485 TxD (–)

ETHERNET CONFIGURATION
CONNECTOR B
M12 8-pin socket:
Port 4 - Ethernet

1	N/C
2	N/C
3	N/C
4	TX (–)
5	RX (+)
6	TX (+)
7	N/C
8	RX (–)

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
.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, 5–28V 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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