OMRON

Laser Barcode Reader

QX-830 series

Compact Industrial Laser Barcode Reader

The QX-830 laser barcode reader 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 barcode reader for any industrial application.

QX–830: At a Glance

- Scans / second: 300 to 1400
- Read Range: 25 to 762 mm
- Optional Embedded Ethernet TCP / IP & EtherNet / IP
- IP54 Enclosure

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

QX–830: Available Codes

Linear

Stacked — MicroPDF, PDF417, GS1 Databar

Please see the Ratings and Specifications for a complete list of supported symbologies.

Quick Connect System
- Plug and play setup
- Single or multi-code reader 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 762 mm, at up to a 254 mm beam width.

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

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

Ordering Information

Laser Barcode Readers

Scan mode	Read range	Interface	Model
Single Line	Low Density	Serial *1	**FIS-0830-0001G**
	Middle Density		**FIS-0830-0002G**
	High Density		**FIS-0830-0003G**
Raster Line	Low Density	Serial *1	**FIS-0830-0004G**
	Middle Density		**FIS-0830-0005G**
	High Density		**FIS-0830-0006G**
	Low Density / Plastic Window		**FIS-0830-0010G**
Single Line	Low Density	Serial *2 and Ethernet	**FIS-0830-1001G**
	Middle Density		**FIS-0830-1002G**
	High Density		**FIS-0830-1003G**
Raster Line	Low Density	Serial *2 and Ethernet	**FIS-0830-1004G**
	Middle Density		**FIS-0830-1005G**
	High Density		**FIS-0830-1006G**
	Low Density / Plastic Window		**FIS-0830-1010G**

*1. Supports RS-232, RS-422, or RS-485.
*2. Supports RS-232.

Accessories

Type	Model
QX-1 Interface Device	**98-000103-02**
QX Cordset, Common, M12 12-pin Socket (Screw-On) to M12 12-pin Plug (Screw-On), 3 m	**61-000148-02**
QX Cordset, Common, M12 12-pin Socket (Screw-On) to M12 12-pin Plug (Screw-On), 1 m	**61-000162-02**
QX Cordset, Host, Serial, M12 12-pin Socket (Screw-On) to DB-9 Socket, 1 m	**61-000153-02**
QX Cordset, Host, Serial, M12 12-pin Socket (Screw-On) to DB-9 Socket, 3 m	**61-000164-02**
QX Cordset, Host, Serial, M12 12-pin Plug (Screw-On) to DB-9 Socket, 1 m	**61-000152-02**
QX Cordset, Host, Serial, M12 12-pin Plug (Screw-On) to DB-9 Socket, 3 m	**61-000165-02**
QX Cordset, Host, Ethernet, M12 8-pin Plug (Screw-On) to RJ45, 1 m	**61-000160-03**
QX Cordset, M12 12-pin Plug to M12 12-pin Socket to DB-25 Plug Turck Connectors	**61-000172-02**
QX Cordset, M12 12-pin Plug & M12 12-pin Socket to MS-Connect 210, RS-232, 2 m	**61-000158-03**
QX Cordset, M12 12-pin Plug (Screw-On) to Flying Leads, 3 m	**61-000166-02**
QX Cordset, M12 12-pin Plug & Socket to IB-131, RS-232, 2 m	**61-000159-03**
QX Cordset, M12 12-pin Socket to IB-131, RS-232/RS-485, 2 m	**61-000159-04**
Photoelectric Sensor, M12, 4-pin Plug, NPN output, Cable length 2m	**99-9000016-01**

Power Supplies

Type	Model
Power Supply, 100-240 VAC, +24 VDC, M12 12-pin Socket	**97-000012-01**
Power Supply, 100-240 VAC, +24 VDC, M12 12-Pin Plug	**97-000012-04**

Note: Do not use the power supplies or power supply cords indicated in this catalog with any other electric or electronic equipment. When using the QX-830 Series, please use the power supply and power supply cord indicated in this catalog.

Mounting and Connectors

Type	Model
Mounting Plate Kit for QX-830 / QX-870	**98-500006-01**
Right Angle Mirror Kit for QX-830	**98-200026-02**
Mounting Arm/Adapter Kit for QX-830 / QX-870, 152 mm (6 inches)	**98-000016-01**
Mounting Arm Extension Kit for all code readers,152 mm (6 inches)	**98-000037-01**
L-Bracket Kit for QX Series	**98-000148-01**
Mounting Stand Base Plate Kit	**98-000054-01**

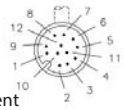
Ratings and Specifications

Applicable codes	Standard	Code 39, Codabar, Code 93, Interleaved 2 of 5, Code 128, PDF417, Micro PDF417, Pharmacode, UPC, GS1 Databar
	Application standards	UCC / EAN-128, AIAG
Reading performance	Mirror type	Rotating, 10-faceted
	Optional raster mirror image	10 raster scan lines over a 2° arc (or 0.500-inch raster height at 8-inch [203-mm] distance)
	Scan rate	Adjustable from 300 to 1,400 scans / s, default=500
	Scan width angle	60° (typ.)
	Pitch	±50° max.
	Skew	±40° max.
	Label contrast	25% min. absolute dark to light differential at 655 nm wavelength
Communications	Interface	RS-232 / 422 / 485 or Ethernet *
	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
I / O specifications	Input 1 / Trigger / New Master	Optoisolated, 4.5 to 28 V rated, (13 mA at 24 VDC) New Master is (–) to signal ground
	Outputs (1, 2 & 3)	Optoisolated, 1 to 28 V rated, (I_{CE} <100 mA at 24 VDC, current limited by user)
Power requirement		10 to 28 VDC, 200 mV p-p max. ripple, 180 mA at 24 VDC (typ.)
Laser light	Type	Laser diode
	Output wavelength	655 nm nominal
	Beam divergence	0.4 mrad (typ.)
	Pulse time	40 to 186 µs
	Maximum output	1.75mW
	Safety class	Visible laser: IEC 60825-1 Class 2
Environmental specifications	Ambient temperature range	Operating: 0 to 50°C, Storage: -40 to 75°C
	Ambient humidity range	Up to 90% (with no icing or condensation)
	Degree of protection	IP54
	Operating life	50,000 hours at 25°C
Weight		Approx. 212 g
Dimensions		35 x 65.7 x 87.8 mm (H x D x W)
Safety standards		FCC, UL/c UL, CE, CB, KC, RCM, BIS
Material (Case)		Aluminum diecast

* Depends on model. See Ordering Information for details.

PIN ASSIGNMENTS

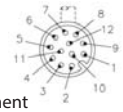
CONNECTOR A
M12 12-PIN PLUG



Pin Assignment

1	Trigger
2	Power
3	Default
4	New Master
5	Output 1
6	Output 3
7	Ground
8	Input Common
9	Host RxD
10	Host TxD
11	Output 2
12	Output Common

CONNECTOR B
M12 12-PIN SOCKET

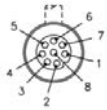


Pin Assignment

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

ETHERNET CONFIGURATION

CONNECTOR B
M12 8-PIN SOCKET



Pin Assignment

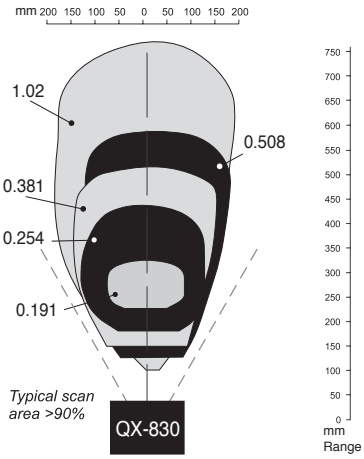
1	Terminated
2	Terminated
3	Terminated
4	TX (–)
5	RX (+)
6	TX (+)
7	Terminated
8	RX (–)

QX-830

Read Ranges*

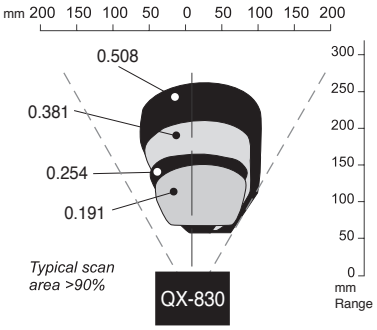
(Unit: mm)

Low Density Scan Area



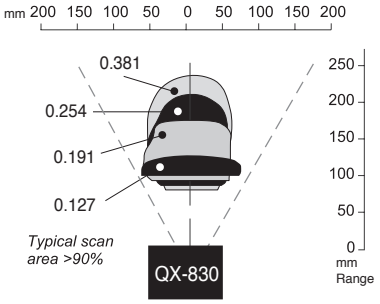
Narrow-bar-width	Read range
0.191 mm	254 to 305 mm
0.254 mm	178 to 406 mm
0.381 mm	152 to 483 mm
0.508 mm	127 to 559 mm
1.02 mm	102 to 762 mm

Medium Density Scan Area



Narrow-bar-width	Read range
0.191 mm	64 to 140 mm
0.254 mm	38 to 178 mm
0.381 mm	38 to 216 mm
0.508 mm	38 to 279 mm
0.762 mm	25 to 305 mm

High Density Scan Area

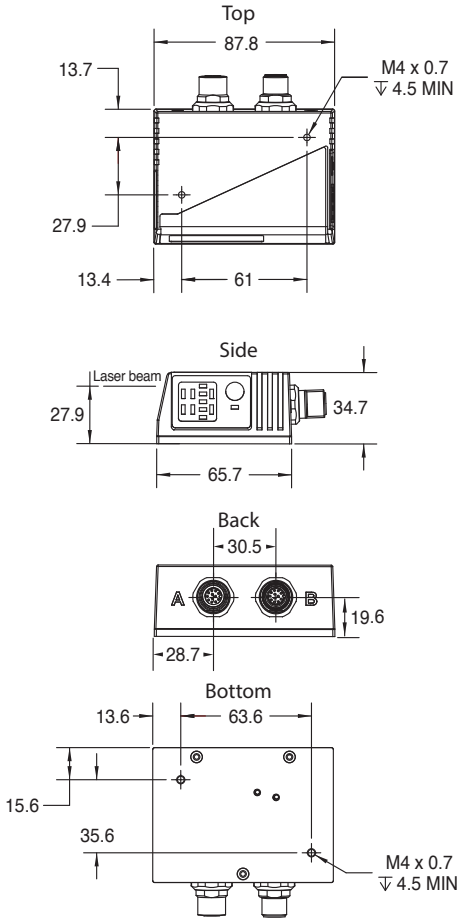


Narrow-bar-width	Read range
0.084 mm	Contact OMRON.
0.127 mm	102 to 127 mm
0.191 mm	89 to 171 mm
0.254 mm	82 to 203 mm
0.381 mm	82 to 229 mm

* Ranges based on a Grade A, Code 39 label, at 500 scans per second. Data subject to change.

Dimensions

(Unit: mm)

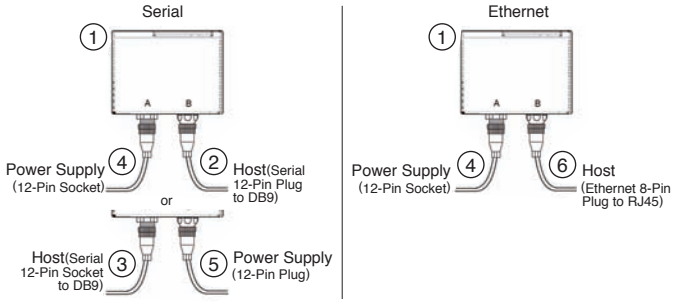


Laser Label Indications

This warning label is attached to the laser barcode reader.
Never remove this label or place objects in front of it.

System Configurations

Stand Alone Configurations

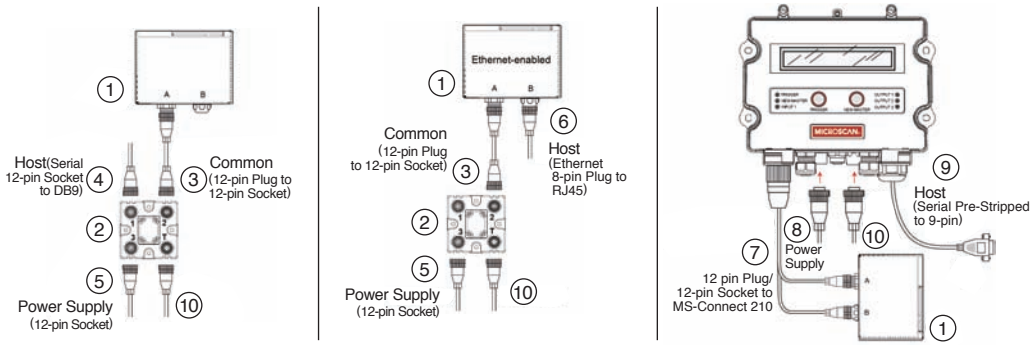


No.	Type	Model
1	QX-830 Laser Barcode Reader	FIS-0830-□□□□G
2	QX Cordset, Host, Serial, M12 12-Pin Plug (Screw-On)-to-DB-9 Socket, 1 m.	61-000152-02*
3	QX Cordset, Host, Serial, M12 12-Pin Socket (Screw-On)-to-DB-9 Socket, 1 m.	61-000153-02*
4	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
5	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Plug	97-000012-04
6	QX Cordset, Host, Ethernet, M8 8-Pin Plug (Screw-On)-to-RJ45, 1 m.	61-000160-03
-	Kit, 6 in. Mounting Arm / Adapter, QX-830, QX-870	98-000016-01
-	Kit, Mounting Stand Base Plate	98-000054-01

* Cordsets available in multiple lengths.

Stand Alone Configurations

With QX-1 or MS-Connect 210



No.	Type	Model
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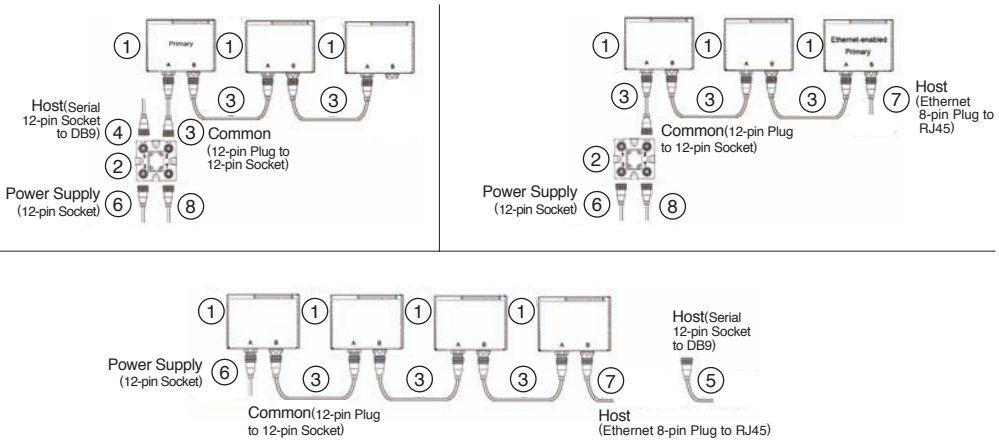
2	QX-1 Interface Device	98-000103-02
3	QX Cordset, Common, M12 12-Pin Socket (Screw-On)-to-M12 12-Pin Plug (Screw-On), 1 m.	61-000162-02*1
4	QX Cordset, Host, Serial, M12 12-Pin Socket (Screw-On)-to-DB-9 Socket, 1 m.	61-000153-02*1
5	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
6	QX Cordset, Host, Ethernet, M12 8-Pin Plug (Screw-On)-to-RJ45, 1 m.	61-000160-03*1
7	QX Cordset, M12 12-Pin Plug & M12 12-Pin Socket-to-MS-Connect 210 (RS-232), 2 m.	61-000158-03
8	Power Supply, 100-240VAC, +24VDC, TRK 3-Pin, U.S. / Euro Plug)	97-000012-02
9	Connectivity Box	FIS-0210-0001G*2
10	Photoelectric Sensor, M12, 4-pin Plug, NPN output, Cable length 2m	99-9000016-01
-	Kit, 6 in. Mounting Arm / Adapter, QX-830, QX-870	98-000016-01
-	Kit, Mounting Stand Base Plate	98-000054-01

*1. Cordsets available in multiple lengths
*2. Refer to MS-Connection page for complete listing of MS-Connection 210 options

QX-830

System Configurations

Daisy Chain Configurations



No.	Type	Model
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2	QX-1 Interface Device	98-000103-02
3	QX Cordset,Common,M12 12-Pin Socket(Screw-On)-to-M12 12-Pin Plug(Screw-On), 1 m.	61-000162-02*
4	QX Cordset, Host, Serial, M12 12-Pin Socket (Screw-On)-to-DB-9 Socket, 1 m.	61-000153-02*
5	QX Cordset, Host, Serial, M12 12-Pin Plug (Screw-On)-to-DB-9 Socket, 1 m.	61-000152-02*
6	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
7	QX Cordset, Host, Ethernet, M8 8-Pin Plug (Screw-On)-to-RJ45, 1 m.	61-000160-03
8	Photoelectric Sensor, M12, 4-pin Plug, NPN output, Cable length 2m	99-9000016-01
-	Kit, 6 in. Mounting Arm / Adapter, QX-830, QX-870	98-000016-01
-	Kit, Mounting Stand Base Plate	98-000054-01

* Cordsets available in multiple lengths.

Related Manuals

Man.No.	Model	Manual
84-000830	QX-830	Compact Industrial Scanner User's Manual

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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