Industrial Raster Laser Scanner

The QX-870 laser scanner partners the latest technologies in barcode reading and connectivity into an easy to use solution for barcode track, trace and control applications. Simple to set up and deploy, it features a programmable sweeping raster to read multiple codes, in varying locations, even if they are damaged or mis-aligned.

With plug and play setup and the most aggressive decode algorithms available, the QX-870 is an ideal laser scanner for any industrial application.

QX-870: At a Glance

- Scans/second: 300 to 1400
- Read Range: 1 to 30" (25 to 762 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.

Sweeping Raster: This programmable feature enables the reader for multiple symbols at varying distances and locations.

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-870: Available Codes

Linear

- All Standard

Stacked

- MicroPDF
- PDF417
- GS1 Databar

QX-870: Quick Connect System

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

X-Mode Technology

- Decodes damaged, poorly printed, or mis-aligned 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.

Intelligent Raster

In addition to sweep angle and speed controls, the QX-870 features a programmable raster with intelligent auto framing technology. Advanced software will automatically frame the raster height and width of the laser to match the barcode, allowing selective targeting of codes within a single read cycle.

Ethernet Protocols

The QX-870 includes optional embedded Ethernet TCP/IP and EtherNet/IP for high speed communication.

Application Examples

- Any industrial environment from light to heavy duty
- Automotive assembly
- Packaging and sortation
- Electronics production
- Embedded within machinery
QX-870 Industrial Raster Laser Scanner
Specifications and Options

MECHANICAL
Height: 4.29" (109 mm)
Width: 3.74" (95 mm)
Depth: 1.76" (45 mm)
Weight: 16 oz. (453 g)

READ RANGES
LOW DENSITY RANGE DATA

<table>
<thead>
<tr>
<th>Narrow-bar-width</th>
<th>Read Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0075&quot; (.191 mm)</td>
<td>10 to 12&quot; (254 to 305 mm)</td>
</tr>
<tr>
<td>.010&quot; (.254 mm)</td>
<td>7 to 15&quot; (178 to 381 mm)</td>
</tr>
<tr>
<td>.015&quot; (.381 mm)</td>
<td>6 to 19&quot; (152 to 483 mm)</td>
</tr>
<tr>
<td>.020&quot; (.508 mm)</td>
<td>5 to 22&quot; (127 to 558 mm)</td>
</tr>
<tr>
<td>.040&quot; (.102 mm)</td>
<td>3 to 30&quot; (76 to 762 mm)</td>
</tr>
</tbody>
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MEDIUM DENSITY RANGE DATA

<table>
<thead>
<tr>
<th>Narrow-bar-width</th>
<th>Read Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0075&quot; (.191 mm)</td>
<td>2.5 to 5.5&quot; (64 to 140 mm)</td>
</tr>
<tr>
<td>.010&quot; (.254 mm)</td>
<td>1.5 to 7.5&quot; (38 to 187 mm)</td>
</tr>
<tr>
<td>.015&quot; (.381 mm)</td>
<td>1.5 to 8.5&quot; (38 to 218 mm)</td>
</tr>
<tr>
<td>.020&quot; (.508 mm)</td>
<td>1.5 to 11&quot; (38 to 280 mm)</td>
</tr>
<tr>
<td>.030&quot; (.762 mm)</td>
<td>1.0 to 12&quot; (25 to 304 mm)</td>
</tr>
</tbody>
</table>

HIGH DENSITY RANGE DATA

<table>
<thead>
<tr>
<th>Narrow-bar-width</th>
<th>Read Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0003&quot; (.084 mm)</td>
<td>100 to 140° (254 to 356 mm)</td>
</tr>
<tr>
<td>.0005&quot; (.127 mm)</td>
<td>50 to 90° (127 to 222 mm)</td>
</tr>
<tr>
<td>.00075&quot; (.191 mm)</td>
<td>25 to 45° (64 to 119 mm)</td>
</tr>
</tbody>
</table>

ENVIROMENTAL
Enclosure: 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: Class A .15-30 MHz
Conducted Emissions: Class A 30-1000 MHz

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

SYMBOLOGIES
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

ELECTRICAL
Power Requirement: 10–28 VDC, 200 mV p-p max ripple, 270mA at 24 VDC (typ.)

DISCRETE I/O
Input 1/Trigger/New Master: Bi-directional optoisolated 4.5–28V rated (13 mA at 24 VDC)
Outputs (1, 2 & 3): Optoisolated, 1–28V rated, (I<sub>on</sub> = 100 mA at 24 VDC, current limited by user)

 protocols
Point-to-Point, Point-to-Point w/RTS/CTS, Point-to-Point w/XON/XOFF, Multidrop, Daisy Chain, User-Defined Multidrop, Ethernet TCP/IP, EtherNet/IP

PIN ASSIGNMENTS
Connector A (Serial)
M12 12-pin plug:
Pin Assignment
9 Host RXD
10 Host TXD
2 Power
7 Ground
1 Trigger
8 Input Common
4 New Master
5 Output 1
6 Output 2
12 Output common

Connector P/M (Serial)
M12 12-pin plug:
Pin Assignment
9 N/C
10 N/C
2 Power
7 Ground
3 N/C
4 N/C
5 N/C
6 422/485 TxD (+)
11 422/485 TxD (+)
12 422/485 RxD (–)

Connector B (Serial)
M12 8-pin socket:
Pin Assignment
1 Terminated
2 Terminated
3 Terminated
4 Input (+)
5 Input (+)
6 TX (+)
7 Terminated
8 RX (–)

Connector T (Trigger)
M12 4-pin socket:
Pin Assignment
1 Power
2 Trigger
3 Ground
4 Input Common

Note: Detailed connector pinout information is available in the User’s Manual.

Warranty–
www.microscan.com/warranty.

QMS CERTIFICATION
www.microscan.com/quality

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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–For current warranty information on this product, please visit www.microscan.com/warranty.

www.microscan.com