

Code Reader Group Catalog



Total solution from recognition to print quality verification

1D / 2D Symbols and Direct Part Marks

Linear (1D) barcodes have been in commercial use since the 1970s and are the most common symbologies used for automatic identification. Increasing numbers of manufacturers are using two-dimensional (2D) symbols, such as Data Matrix, that offer greater placement flexibility and increased data capacity.

Machine-readable symbols generally fall into the categories of linear barcodes, stacked symbols, 2D symbols and Optical Character Recognition (OCR) fonts. A few examples of each are shown below (symbologies are not to scale).

OMRON Microscan provides fast, reliable reading solutions for 1D and 2D Symbology Standards in the right and OCR. Our products read any linear barcodes or 2D symbols printed or marked by any means, and verify them to industry standards.

LINEAR BARCODES



Code 128



Code 39



Pharmacode



Code 93



Interleaved 2 of 5



UPC

STACKED SYMBOLOGIES



PDF417



GS1 DataBar (Stacked)



GS1 DataBar (Composite)



Micro PDF417

2D SYMBOLOGIES



Data Matrix



QR Code



Aztec Code



DotCode

DIRECT PART MARKS

Direct part marks (DPM) are typically 2D Data Matrix symbols permanently marked by such methods as dot peen or laser / chemical etch onto substrates including metal, plastic, rubber or glass. OMRON Microscan offers a comprehensive family of readers and verifiers with illumination and decode algorithms specifically designed for difficult direct part marks.



Thermal print on foil



Dot peen on metal



Laser etch on metal



Inkjet on ABS plastic

1D and 2D Symbology Standards

- **ISO / IEC 15416**
1D Print Quality Standard
- **ISO / IEC 15415**
2D Print Quality Standard
- **Automotive Industry Action Group: AIAG B-4**
Parts Identification and Tracking
- **U.S. Department of Defense: IUID MIL-STD-130**
Permanent and Unique Item Identification
- **Electronics Industry Association: EIA 706**
Component Marking
- **Clinical / Laboratory Standards Institute: AUTO2-A2**
Bar Codes for Specimen Container Identification
- **ISO / IEC 16022**
International Symbology Specification
- **ISO / IEC 15434**
Symbol Data Format Syntax
- **Society of Aerospace Engineers: AS9132**
Data Matrix Quality Requirements For Part Marking
- **AIM DPM / ISO 29158**
Direct Part Mark Quality Guideline

NOTE: Symbologies on this page are not shown to scale and are not intended for testing purposes.

OCR FONTS

OCR-A	OCR-B	MICR E-13B	SEMI M12
1234ABCD	1 2 3 4 A B C D	1 2 3 4 5 6 7 8 9 0 *	1234ABCD
Alphanumeric (+4 currency char.)	Alphanumeric (+4 currency char.)	Numeric (+4 special char.)	Alphanumeric (+4 currency char.)

Barcode Verification and Label Inspection

Legible, accurate barcodes and text have never been more important than they are today. Inconsistencies in print quality can lead to process inefficiencies and downtime; unreadable barcodes may require re-labeling, re-scanning, or even manual entry of critical information by a human operator.

Inconsistent quality may also result in expensive vendor non-compliance fines and other penalties, plus damage the labeled product's perceived quality.

Readability of barcodes is determined by how well a barcode reader can decode the data stored in the symbol.

Understanding the primary reasons for decoding failures can save operators valuable time and effort when diagnosing reading issues. Once the cause of barcode unreadability is defined, it can be addressed by taking simple, preventative measures.

OMRON Microscan's barcode verifiers are embedded solutions that include camera, software, and precision illumination specifically designed for the verification of 1D / 2D codes and direct part marks to ISO / IEC standards.

Benefits of Barcode Verification Systems

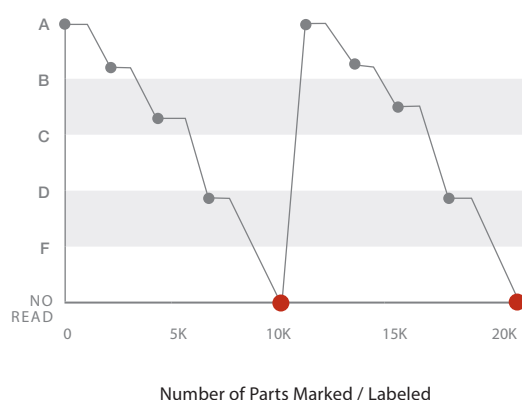
- Comply with symbol quality industry standards and directives
- Maximize efficiency of your manufacturing process
- Control quality in real time as you verify the output from your printer or code marking equipment
- Minimize returned goods due to bad labels
- Increase customer satisfaction
- Produce informative verification reports

THE IMPORTANCE OF VERIFICATION

Automated data capture is critical to a company's success, and the results of scanning failure can have a serious impact. Without verification, bad barcodes are not identified until they are unreadable. By the time a bad barcode is identified, thousands of poor-quality barcodes may have already escaped down the line. With verification, bad barcodes are prevented from being applied to the product, eliminating the chance for future failures.

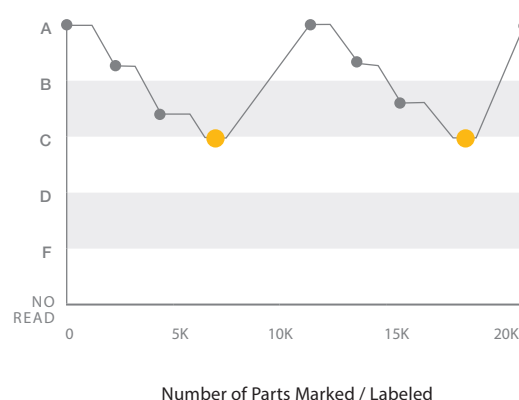
WITHOUT VERIFICATION

Barcode Quality Over Time:
Using a Reader to Check Quality



WITH VERIFICATION

Barcode Quality Over Time:
Using a Verification Solution to Check Quality



A wide range of products to suit your application



1D / 2D Code Recognition



Laser Barcode Scanners

From small products for embedded OEM applications to rugged readers for industrial manufacturing environments, OMRON Microscan offers a wide range of quality products to read linear barcodes and stacked symbols, with features such as high-speed decoding, wide field of view, symbol reconstruction and aggressive decode algorithms.



MS-3 series

Compact raster laser scanner offers high-performance decoding and wide scan angle at close range.



QX-830 series

Compact laser scanner features QX platform, symbol reconstruction and Ethernet protocols.



QX-870 series

Programmable sweeping raster laser scanner with QX platform, symbol reconstruction and Ethernet protocols.

Read Range	51 to 254mm	25 to 762mm	25 to 762mm
Scans / Second	Up to 1000	300 to 1400	300 to 1400
Power	5 VDC	10 to 28 VDC	10 to 28 VDC
Sensor	Laser diode	Laser diode	Laser diode
IP Rating	IP54	IP54	IP65
Connectivity	RS-232, RS-422 / 485 (up to 115.2k), Keyboard Wedge, USB	RS-232, RS-422 / 485 Ethernet TCP / IP or EtherNet / IP™	RS-232, RS-422 / 485 Ethernet TCP / IP or EtherNet / IP™

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Handheld Code Readers

OMRON Microscan's handheld code readers feature the latest technology for decoding 1D and 2D symbols. From simple data tracking for inventory control to aggressive reading of the toughest direct part marks, we have a handheld solution for various track, trace, and control applications. These compact designs feature durable, shock-resistant enclosures that are disinfectant-ready.

Multi Code Readers



HS-360X series



V430-F series

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Print Quality Verification



Barcode Verification Systems

OMRON Microscan's LVS® Barcode Verifiers are fully-integrated off-line solutions designed for the verification of 1D and 2D symbols and direct part marks to application standards such as GS1, HIBC, USPS and ISO / IEC 15415 / 15416. Barcode Verification Kits offer flexible integration options for off-line to symbology standards or user-defined parameters.



LVS-9510 series

All-in-one desktop verifier for off-line ISO / IEC barcode verification.



LVS-958 series

All-in-one handheld verifier for flexible verification of multiple printed 1D / 2D symbols and direct part marks (DPM). Can be used with a tablet for portability.

1D / 2D	✓	✓
DPM		✓
GS1 Data	✓	✓
GS1 Certified Manage	✓	✓
Permissions	✓	✓
Field of View	Varies by model	Standard: Horizontal 76 mm, Vertical 57 mm DPM: 44 × 44 mm DPM-HD: 33 × 33 mm

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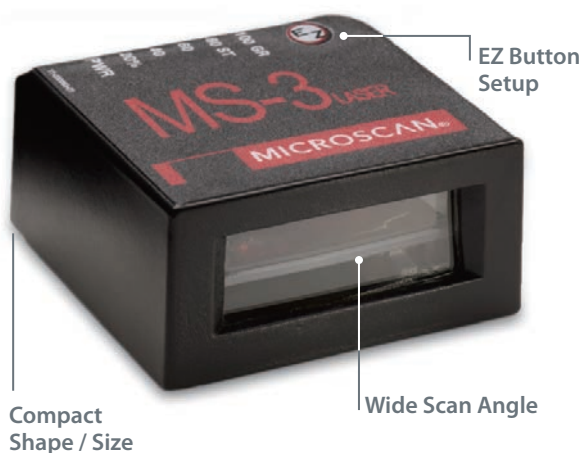
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OTHER FEATURES

- GS1 US® and 21 CFR Part 11 compliant-ready
- Verifies to over 20 global application standards and over 30 symbology types
- Enables U.S. FDA UDI (Unique Device Identification) compliance for Medical Device Manufacturers and Labelers
- Provides comprehensive and user-friendly barcode defect analysis to help guide corrections
- Includes a local report archive, as well as an external database interface to provide flexible quality reporting



Laser Barcode Scanner

MS-3 series**Ultra-Compact
Laser Barcode Scanner**

The MS-3 laser barcode scanner offers the fastest read performance* in embedded compact bar code scanners. The wide scan angle of 70 degrees is coupled with ultra-compact size and flexible mounting.

High performance and flexibility make the MS-3 the optimal choice for reliable reading in embedded instruments.

*Based on Omron investigation in march 2018.

MS-3: At a Glance

- Decodes / second: up to 1000
- Read Range: 51 to 254 mm
- Wide Scan Angle
- IP54 Enclosure



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



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

Compact & Lightweight

44.5 mm square by 21.6 mm tall scanner weighs only 57 g for easy mounting onto robotic equipment or into tight spaces.

High Scan Speed

Adjustable scan speed from 300 up to 1000 decodes per second and OMRON Microscan's world-class decode algorithms ensure accurate reading every time.

Wide Scan Angle

The wide scan angle of over 70 degrees and a factory customizable focal point add up to space savings within your system, allowing greater flexibility with positioning.

Visible Indicators

Illuminated LEDs on top of the scanner provide visual confirmation of the scanner performance.

Real-time Controls

The inputs include a trigger signal, a "new master" input, and a programmable input for resetting counters or releasing outputs. The outputs can be configured to activate upon a variety of conditions including matchcode and diagnostic operations.

Application Examples

- Clinical instruments
- Bank ATMs
- Parking kiosks
- Point-of-sale terminals
- Robotics

MS-3: Available Codes

Linear

All Standard



Laser Barcode Scanner MS-3 series

Ordering Information

Laser Barcode Scanners

Scan mode	Read range	Installation type	Model
Single Line	Low Density	Standard	FIS-0003-0001G
	High Density		FIS-0003-0002G
Raster Line	Low Density	Standard	FIS-0003-0003G
	High Density		FIS-0003-0004G
Single Line	Low Density	Right Angle	FIS-0003-0005G
Raster Line	Low Density	Right Angle	FIS-0003-0007G

Accessories

Type	Model
MS-Connect 210, Connectivity Box with Display	FIS-0210-0001G
Relay Module, 120 VAC, 3 Amp Output, Series 70, Type SM, for MS-Connect 210	98-000013-04
Relay Module, 240 VAC, 3 Amp Output, Series 70, Type SM, for MS-Connect 210	98-000013-05
Relay Module, 24 VDC, 3 Amp Output, Series 70, Type SM, for MS-Connect 210	98-000013-06
Cable, MS-3 to MS-Connect 210, 1.8 m (6 feet)	61-000127-02
IB-3PC Keyboard Wedge / Interface Box	FIS-0001-0030G
IC-3USB Interface Kit, USB to Serial 15-pin	98-000051-01
Converter, IC-332, 24 V / 5 V, Opto I / O for use with IB-131	FIS-0001-0035G
IB-131 Interface Box	99-000018-01
Communication Cable, DB-25 Plug to DB-9 Socket, 1.8 m (6 feet)	61-300026-03
Communication Cable, DB-9 Socket to DB-9 Socket, 1.8 m (6 feet)	61-000010-02
Extension Cable, Scanner to IB-131	61-000011-02
IB-131 Daisy Chain Cable	61-100029-03

Power Supplies

Type	Model
Power Supply, 100-240 VAC, +5 VDC, 5-pin Plug, U.S. / Euro Plug	97-000011-01
Power Supply, 100-240 VAC, +5 VDC, 2-pin Plug, U.S. / Euro Plug	97-000011-02
Power Supply, 100-240 VAC, +24 VDC, TRK 3-pin, U.S. / Euro Plug	97-000012-02

Mounting and Connectors

Type	Model
Mounting Arm / Adapter Kit for MS-3, 101 mm (4 inches)	98-000048-01
Mounting Stand Base Plate Kit	98-000054-01
Mounting Arm Extension Kit for MS-3, 101 mm (4 inches)	98-000053-01
Mounting Arm Extension Kit for MS-3, 76 mm (3 inches)	98-000053-02
Side Mount Bracket for MS-3	98-000060-01
Angle Mount Bracket for MS-3	98-000059-01
Through-Hole Mount Bracket for MS-3	98-000057-02
Extended Right Angle Mirror for MS-3	98-000058-02
Trigger Connector, 4-pin Plug (screw terminal and field wireable for custom wiring into IB-131)	20-610024-01
Power Connector, 3-pin Socket (screw terminal and field wireable for custom wiring into IB-131)	20-610020-01

Laser Barcode Scanner MS-3 series

Ratings and Specifications

Applicable codes		Code 39, Code 128, Interleaved 2 of 5, Codabar, Code 93, UPC / EAN, Pharmacode <div></div>
Reading performance	Scan mode	Single line, fixed raster
	Scan rate	Adjustable from 300 to 1,000 scans / s, default=500
	Scan width angle	>70°
	Pitch	±50°
	Skew	±40°
	Label contrast	25% min. at 650 nm
Communications	Interface	RS-232, RS-422 / 485, USB
	Protocols	Point-to-Point, Point-to-Point w / RTS / CTS, Point-to-Point w / XON / XOFF, Point-to-Point w / RTS / CTS & XON / XOFF, Polling Mode D, Multidrop, User Defined, User Defined Multidrop, Daisy Chain
I / O specifications	Trigger input	3 to 24 V rated (1 mA at 5 VDC)
	New Master	3 to 24 V rated (1 mA at 5 VDC)
	Outputs (1, 2, 3)	5 V TTL compatible, can sink 10 mA and source 2 mA
	Beeper	Good read, Match/Mismatch, Noread
	On / Off LEDs	1 status, 1 power, 5 read performance (representing percentage of good decodes)
Power requirement		5 VDC±5%, 200 mV p-p max. ripple, 260 mA at 5 VDC (typ.)
Laser light	Type	Semiconductor visible laser diode (650 nm nominal)
	Safety class	IEC 60825-1 Class II, 1.0 mW max.
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)
	Operating life	40,000 hours at 25°C
	Degree of protection	IP54 (category 2)
Weight	Standard	Approx. 106 g
	Right Angle	Approx. 136 g
Safety standards		FCC, UL / cUL, CE, BSMI

HOST CONNECTOR / PIN ASSIGNMENTS
High Density 15 Pin D-sub Socket Connector

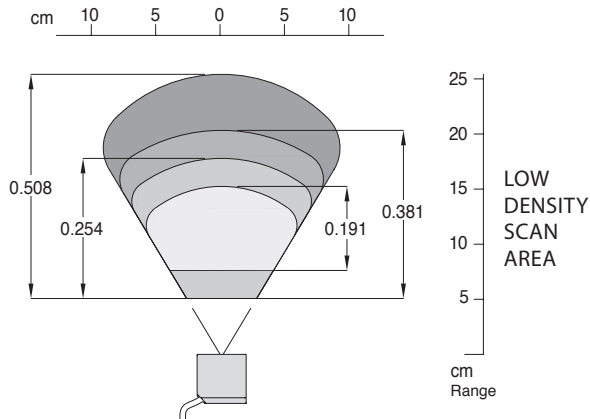
Pin No.	Host RS-232	Host / Aux RS-232	Host RS-422 / 485	In / Out
1	Power +5 VDC			In
2	TxD	TxD	TxD(-)	Out
3	RxD	RxD	RxD(-)	In
4	Power / Signal Ground			
5	NC			
6	RTS	Aux TxD	TxD(+)	Out
7	Output 1 TTL ^a			Out
8	Default configuration ^b			In
9	Trigger			In
10	CTS	Aux RxD	RxD(+)	In
11	Output 3 TTL ^a			Out
12	New Master (NPN)			In
13	Chassis ground ^c			
14	Output 2 TTL ^a			Out
15	NC			

- a. Can sink 10 mA and source 2 mA.
b. The default is activated by connecting pin 8 to ground pin 4.
c. Chassis ground: Used to connect chassis body to earth ground only. Not to be used as power or signal return.

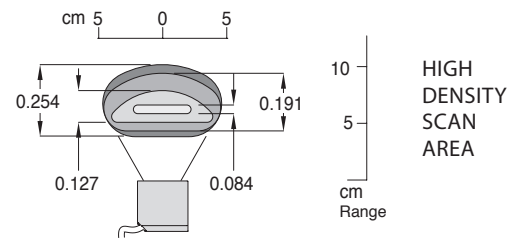
Laser Barcode Scanner MS-3 series

Read Ranges

(Unit: mm)



Narrow-bar-width	Read range
0.191 mm	76 to 152 mm
0.254 mm	51 to 178 mm
0.381 mm	51 to 203 mm
0.508 mm	51 to 254 mm

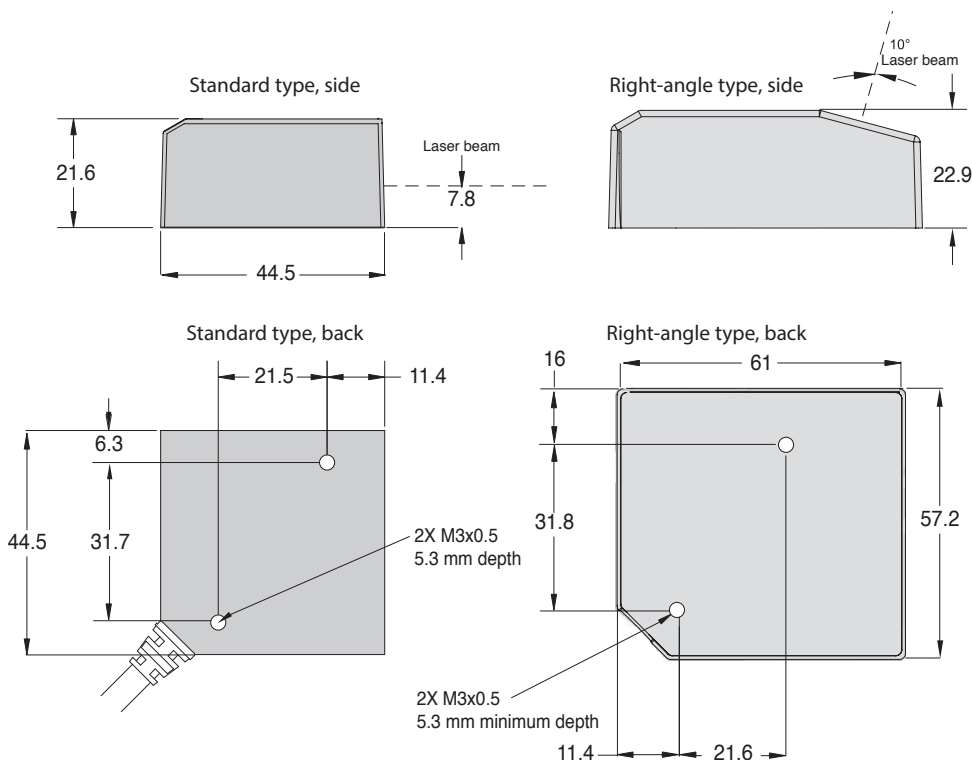


Narrow-bar-width	Read range
0.084 mm	Contact OMRON.
0.127 mm	51 to 79 mm
0.191 mm	43 to 94 mm
0.254 mm	38 to 102 mm

Note: For Right Angle option, subtract 15 mm from read range. Read ranges are based upon optimal scan speed for specific symbol density.

Dimensions

(Unit: mm)



Laser Label Indications

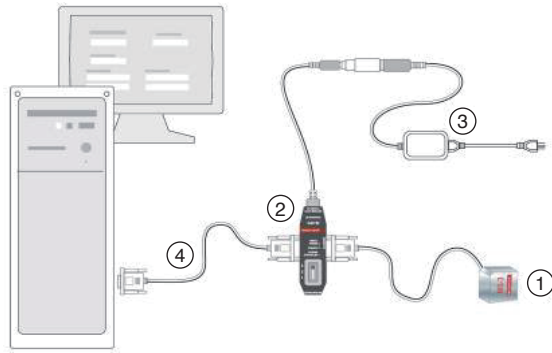
This warning label is attached to the laser Barcode scanner.
Never remove this label or place objects in front of it.

Laser Barcode Scanner MS-3 series

System Configurations

Stand Alone (5V)

This is the basic setup for a single MS-3.

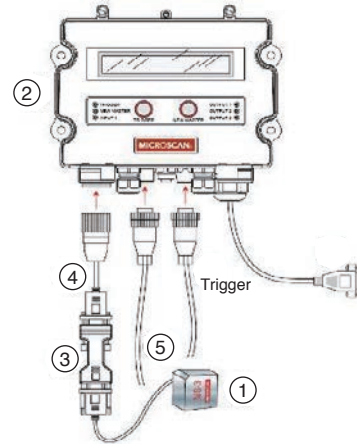


No.	Type	Model
1	MS-3 Laser Barcode Scanner	FIS-0003-□□□□G
2	IB-3PC Keyboard Wedge / Interface Box	FIS-0001-0030G
3	Power Supply, 100-240VAC, +5VDC, 5Pin, USA / EUR Plug	97-000011-01
4	Cable, Communication, DB-9 Socket-to-DB-9 Socket, 6 ft.	61-000010-02
-	Kit, Mounting Arm / Adapter, 4 in., for MS-3	98-000048-01
-	Kit, Mounting Stand Base Plate	98-000054-01

Stand Alone (10-28V)

With MS-Connect 210

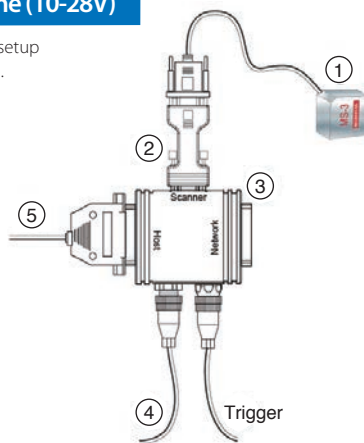
This is the basic setup for a single MS-3 and MS-Connect 210.



No.	Type	Model
1	MS-3 Laser Barcode Scanner	FIS-0003-□□□□G
2	Connectivity Box A	FIS-0210-0001G
3	Converter, IC-332, 24V / 5V, Opto I / O, for Use with IB-131	FIS-0001-0035G
4	Cable, MS-3-to-MS-Connect 210, 6 ft.	61-000127-02
5	Power Supply (100-240 VAC, +24VDC, TRK 3Pin, USA/Euro Plug)	97-000012-02

Stand Alone (10-28V)

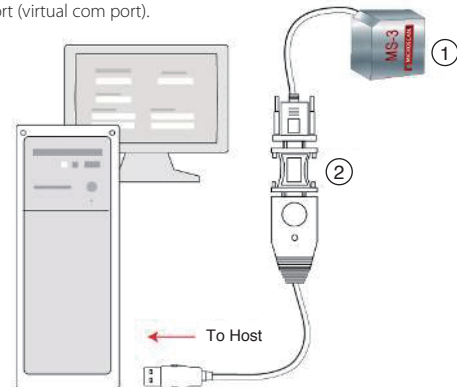
This is the basic setup for a single MS-3.



No.	Type	Model
1	MS-3 Laser Barcode Scanner	FIS-0003-□□□□G
2	Converter, IC-332, 24V / 5V, Opto I / O, for Use with IB-131	FIS-0001-0035G
3	IB-131 Interface Box	99-000018-01
4	Power Supply (100-240 VAC, +24VDC, TRK 3Pin, USA / Euro Plug)	97-000012-02
5	Cable, Communication, DB-25 Plug-to-DB-9 Socket, 6 ft.	61-300026-03
-	Kit, Mounting Arm / Adapter, 4 in., for MS-3	98-000048-01
-	Kit, Mounting Stand Base Plate	98-000054-01

USB

Allows the scanner to be powered and communicate via a USB port (virtual com port).



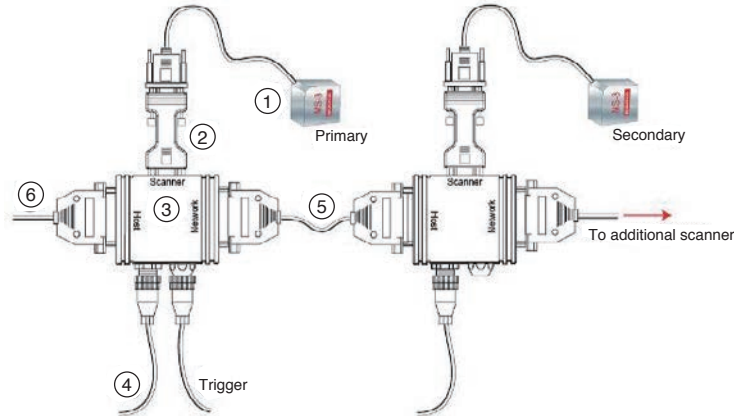
No.	Type	Model
1	MS-3 Laser Barcode Scanner	FIS-0003-□□□□G
2	IC-3USB Interface Kit, USB-to-Serial, 15-Pin	98-000051-01
-	Kit, Mounting Arm / Adapter, 4 in., for MS-3	98-000048-01
-	Kit, Mounting Stand Base Plate	98-000054-01

Laser Barcode Scanner MS-3 series

System Configurations

Daisy Chain

A primary scanner is linked directly to the host. Secondary scanners (up to 9) are linked in tandem. Data is sent from the primary scanner directly to the host.



No.	Type	Model
1	MS-3 Laser Barcode Scanner	FIS-0003-□□□□G
2	Converter, IC-332, 24V / 5V, Opto I / O, for Use with IB-131	FIS-0001-0035G
3	IB-131 Interface Box	99-000018-01
4	Power Supply (100-240 VAC, +24VDC, TRK 3Pin, USA / Euro Plug)	97-000012-02
5	Cable, Daisy Chain, IB-131	61-100029-03
6	Cable, Communication, DB-25 Plug-to-DB-9 Socket, 6 ft.	61-300026-03
-	Kit, Mounting Arm / Adapter, 4 in., for MS-3	98-000048-01
-	Kit, Mounting Stand Base Plate	98-000054-01

Laser Barcode Scanner

QX-830 series

Compact Industrial Laser Barcode Scanner



The QX-830 laser barcode 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: 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.



Quick Connect System

- 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 762 mm, at up to a 254 mm beam width.

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

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.

QX-830: Available Codes

Linear

All Standard



Stacked

MicroPDF



PDF417



GS1 Databar



Laser Barcode Scanner QX-830 series

Ordering Information

Laser Barcode Scanners

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

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

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 scanners, 152 mm (6 inches)	98-000037-01
L-Bracket Kit for QX Series	98-000148-01
Mounting Stand Base Plate Kit	98-000054-01
Trigger Connector, 4-pin Plug (screw terminal and field wireable for custom wiring into IB-131)	20-610024-01

Laser Barcode Scanner QX-830 series

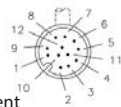
Ratings and Specifications

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 / cUL, CE, CB
Material (Case)		Aluminum diecast

* Depends on model. See Ordering Information for details.

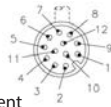
PIN ASSIGNMENTS

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

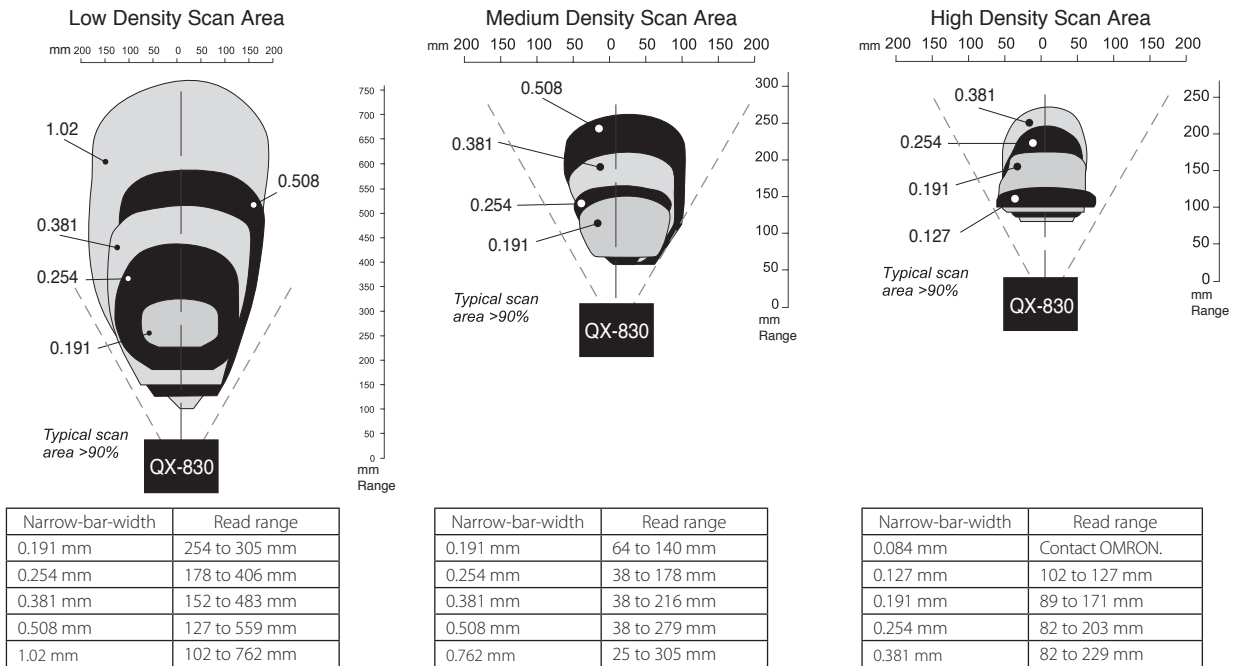


Pin Assignment	
1	Terminated
2	Terminated
3	Terminated
4	TX (–)
5	RX (+)
6	TX (+)
7	Terminated
8	RX (–)

Laser Barcode Scanner QX-830 series

Read Ranges*

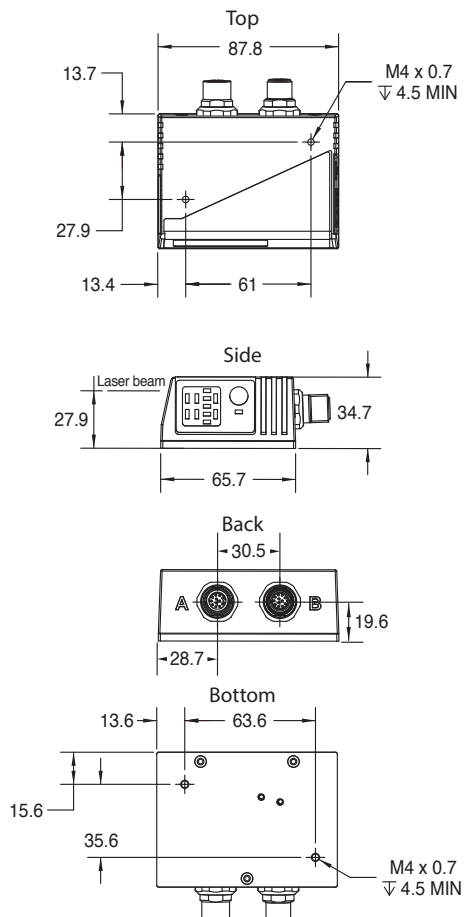
(Unit: mm)



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

Dimensions

(Unit: mm)



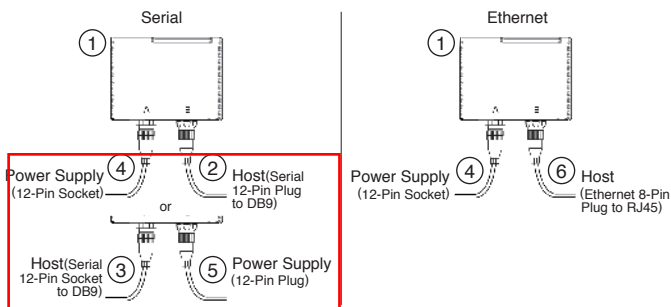
Laser Label Indications

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

Laser Barcode Scanner QX-830 series

System Configurations

Stand Alone Configurations

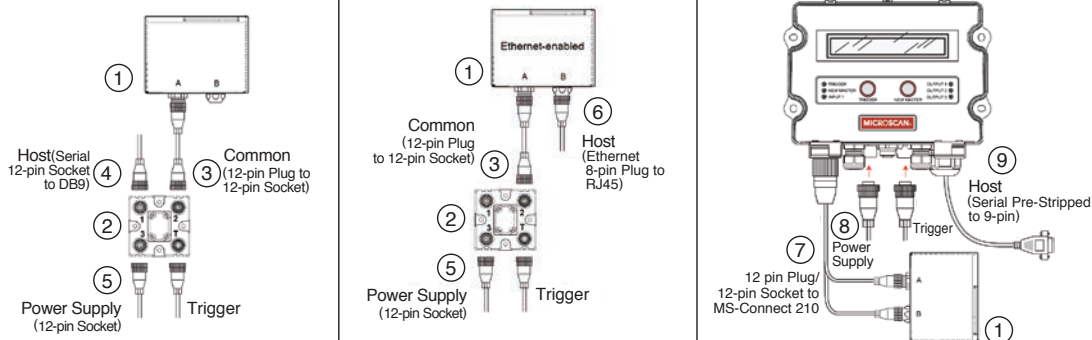


No.	Type	Model
1	QX-830 Laser Barcode Scanner	FIS-0830-□□□□G
2	QX Cordset, Host, Serial, M12 12-Pin Plug (Screw-On)-to-DB-9 Socket, 1 m.	61-000152-02*
3	QX Cordset, Host, Serial, M12 12-Pin Socket (Screw-On)-to-DB-9 Socket, 1 m.	61-000153-02*
4	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
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



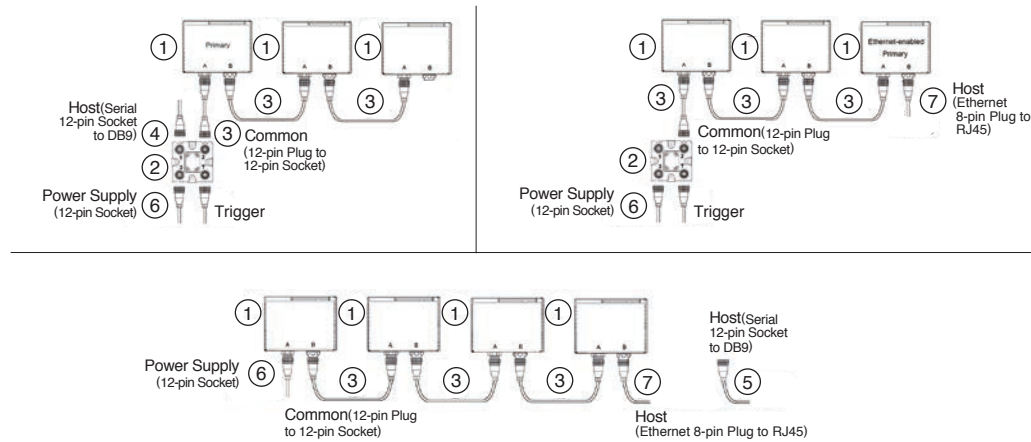
No.	Type	Model
1	QX-830 Laser Barcode Scanner	FIS-0830-□□□□G
2	QX-1 Interface Device	98-000103-02
3	QX Cordset, Common, M12 12-Pin Socket (Screw-On)-to-M12 12-Pin Plug (Screw-On), 1 m.	61-000162-02* ¹
4	QX Cordset, Host, Serial, M12 12-Pin Socket (Screw-On)-to-DB-9 Socket, 1 m.	61-000153-02* ¹
5	Power 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
-	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

Laser Barcode Scanner QX-830 series

System Configurations

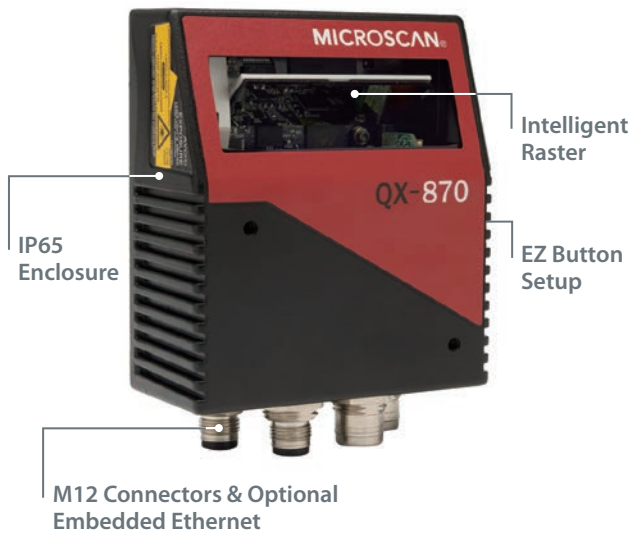
Daisy Chain Configurations



No.	Type	Model
1	QX-830 Laser Barcode Scanner	FIS-0830-□□□□G
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
-	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.

Laser Barcode Scanner

QX-870 series**Industrial Raster Laser Barcode Scanner**

The QX-870 laser barcode 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 an ideal laser scanner for any industrial application.

QX-870: At a Glance

- Scans / second: 300 to 1400
- Read Range: 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 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.



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.

**Quick Connect System**

- 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 762 mm, at up to a 254 mm beam width.

Ethernet Protocols

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

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.

Application Examples

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

QX-870: Available Codes**Linear**

All Standard

**Stacked**

MicroPDF



PDF417



GS1 Databar



Laser Barcode Scanner QX-870 series

Ordering Information

Laser Barcode Scanners

Scan mode	Read range	Interface	Model
Sweeping Raster	Low Density	Serial *	FIS-0870-0004G
	Medium Density		FIS-0870-0005G
	High Density		FIS-0870-0006G
	Low Density / Plastic Window		FIS-0870-0007G
Sweeping Raster	Low Density	Serial * and Ethernet	FIS-0870-1004G
	Medium Density		FIS-0870-1005G
	High Density		FIS-0870-1006G

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

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

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

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 scanners, 152 mm (6 inches)	98-000037-01
L-Bracket Kit for QX Series	98-000148-01
Mounting Stand Base Plate Kit	98-000054-01
Trigger Connector, 4-pin Plug (screw terminal and field wireable for custom wiring into IB-131)	20-610024-01

Laser Barcode Scanner QX–870 series

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
	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 and / 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	Bi-directional optoisolated 4.5 to 28 V rated (13 mA at 24 VDC)
	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, 270 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	1.75 mW
	Operating life	50,000 hours at 25°C
	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	IP65
Weight		Approx. 453 g
Dimensions		109 x 45 x 95 mm (H x D x W)
Safety standards		FCC, UL / cUL, CE, CB
Material		Aluminum diecast

* Depends on model. See Ordering Information for details.

Raster Mirror Performance

Raster sweep angle	Maximum sweeps per second
1 to 10°	80
11 to 20°	60
21 to 34° (max.)	40
35 to 36° (max.)	20

PIN ASSIGNMENTS*

Connector A (Serial)
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 Rx/D
10	Host Tx/D
11	Output 2
12	Output Common

Connector B (Serial)
M12 12-pin socket

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

Connector P / M (Serial)
M12 12-pin plug

Pin Assignment	
1	N / C
2	Power
3	N / C
4	N / C
5	422 / 485 Tx/D (+)
6	422 / 485 Rx/D (+)
7	Ground
8	N / C
9	N / C
10	N / C
11	422 / 485 Tx/D (–)
12	422 / 485 Rx/D (–)

Connector B (Ethernet)
M12 8-pin socket

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

Connector T (Trigger)
M12 4-pin socket

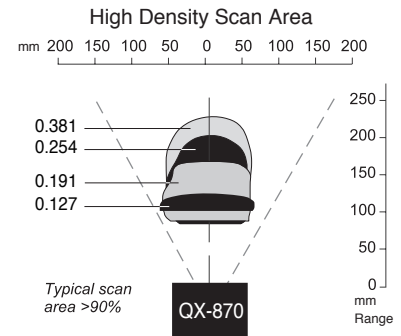
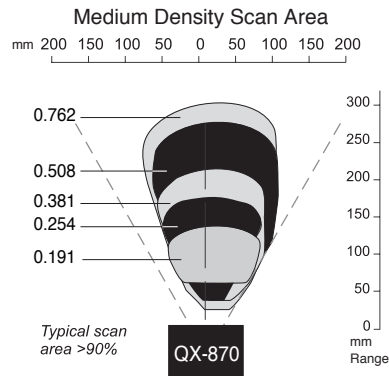
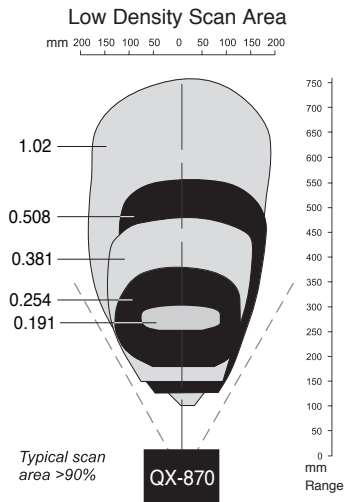
Pin Assignment	
1	Power
2	Trigger
3	Ground
4	Input

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

Laser Barcode Scanner QX-870 series

Read Ranges*

(Unit: mm)



Narrow-bar-width	Read range
0.191 mm	254 to 305 mm
0.254 mm	178 to 381 mm
0.381 mm	152 to 483 mm
0.508 mm	127 to 558 mm
1.02 mm	102 to 762 mm

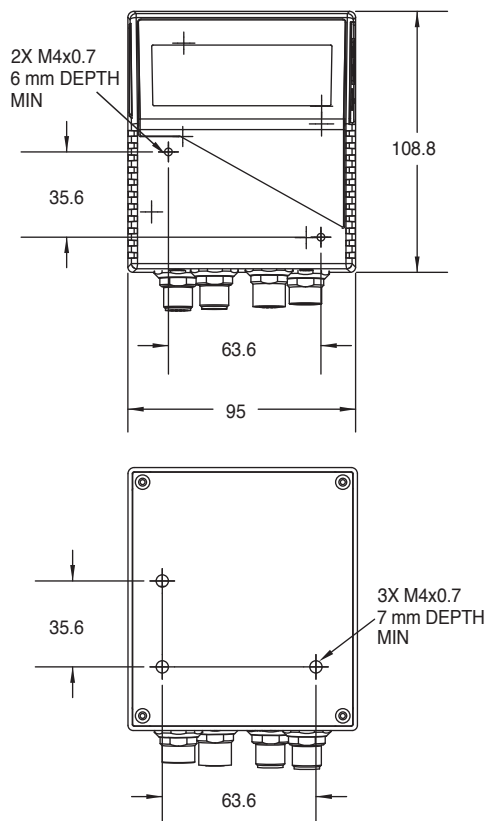
Narrow-bar-width	Read range
0.191 mm	64 to 140 mm
0.254 mm	38 to 178 mm
0.381 mm	38 to 216 mm
0.508 mm	38 to 280 mm
0.762 mm	25 to 304 mm

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 228 mm

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

Dimensions

(Unit: mm)



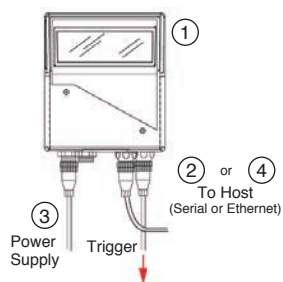
Laser Label Indications

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

Laser Barcode Scanner QX-870 series

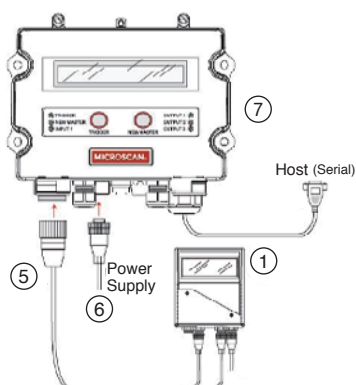
System Configurations

Stand Alone Configurations



Important: Ethernet or Serial connectivity is reader dependent. See FISes for the appropriate reader model.

MS-Connect 210

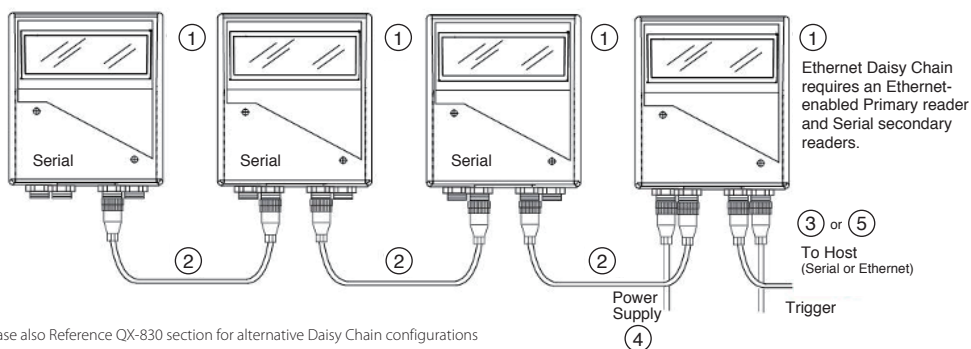


No.	Type	Model
1	QX-870 Laser Barcode Scanner	FIS-0870-□□□□G
2	QX Cordset, Host, Serial, M12 12-Pin Plug (Screw-On)-to-DB-9 Socket, 1 m.	61-000152-02 ^{*1}
3	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
4	QX Cordset, Host, Ethernet, M8 8-Pin Plug (Screw-On)-to-RJ45, 1 m.	61-000160-03 ^{*1}
5	QX Cordset, M12 12-Pin Plug & M12 12-Pin Socket-to-MS-Connect 210 (RS-232), 2 m.	61-000158-03
6	Power Supply, 100-240VAC, +24VDC, TRK 3-Pin, U.S. / Euro Plug)	97-000012-02
7	Connectivity Box	FIS-0210-0001G ^{*2}
-	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

Daisy Chain Configurations



Please also Reference QX-830 section for alternative Daisy Chain configurations

No.	Type	Model
1	QX-870 Laser Barcode Scanner	FIS-0870-□□□□G
2	QX Cordset, Common, M12 12-Pin Socket (Screw-On)-to-M12 12-Pin Plug (Screw-On), 1 m.	61-000162-02 [*]
3	QX Cordset, Host, Serial, M12 12-Pin Plug (Screw-On)-to-DB-9 Socket, 1 m.	61-000152-02 [*]
4	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
5	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

MEMO

Laser Barcode Scanner

Handheld Code Reader

Multi Code Reader

Code Verification System

Handheld DPM Code Reader

HS-360X series

“Ultra-Rugged” Hand Held Scanner



HS-360X: At a Glance

- Wired or Wireless
- Ultra-Rugged DPM Handheld
- Industry-Leading DPM Decoding Performance with X-Mode
- Intuitive WebLink_{PC} Interface

HS-360X: Available Codes

Liner	All Standard		
Stacked	PDF417	GS1 Databar	
2D	Data Matrix	QR	Micro QR

The HS-360X Ultra-Rugged Handheld Imagers is Omron Microscan's newest generation of industrial Direct Part Mark (DPM) handheld imagers, purpose built from the ground up to set new standards for durability and performance. With best in class out of box performance most applications require NO setup. An all NEW user interface WebLink_{PC} makes setup for more difficult applications intuitive and easy.

Ultra-Rugged

The HS-360X withstands multiple drops from 8' and 5,000 tumbles.

X-Mode Decode Algorithms

The HS-360X includes industry-leading X-Mode decoding algorithms to consistently read damaged, distorted or otherwise challenging directly marked codes at high decode rates.

Performance Indicators

In addition to a beeper, visual and vibrating indicators provide silent confirmation of successful reads for noisy or sensitive environments.

Industrial Fluid and Chemical Tolerable

Many industrial fluids and chemicals deemed tolerable.

Charging Station

The charging station is IP65 and transmits and receives data over a Bluetooth class 1 or 2 out to 300 feet. It includes a Wi-Fi friendly mode and a paging button to locate a misplaced imager.

Ease of Use - WebLink_{PC}

Scanner configuration and deployment with browser based user interface and device discovery.

Handheld DPM Code Reader HS-360X series

Ordering Information

Type	Applicable countries	Model
Handheld DPM Scanner, Wired, HDS-3608	Common (except for India / Korea)	HDS-3608-0001
Handheld DPM Scanner, Wireless, HDS-3678		HDS-3678-0001
Battery Spare for HS-360X Wireless Type		98-9000224-01
Handheld DPM Scanner, Wired, HDS-3608 INDIA / KOREA	India / Korea	HDS-3608-0002
Handheld DPM Scanner, Wireless, HDS-3678 INDIA / KOREA		HDS-3678-0002
Battery Spare for HS-360X Wireless Type, INDIA / KOREA		98-9000224-02
Cradle / Charger, HS-360X Wireless Type	Common	12-9000937-01
Cable, USB, Shielded, 2m, EXT 12V (Power Supply Required)		12-9000942-01
Cable, USB, Shielded, 4.6m, EXT 12V (Power Supply Required)		12-9000943-01
Cable, USB, Shielded, 2m		12-9000946-01
Cable, USB, Shielded, 4.6m		12-9000947-01
Cable, RS-232, DB9 Socket, 2M, Straight, HS-360X (Power Supply Required)		12-9000953-01
AC power Cord, 1.8m, JAPAN, C13 connector	Japan	12-9001046-01
AC power Cord, 1.9m, INDIA, C13 connector	India	12-9000963-01
AC power Cord, 2.5m, US, C13 connector	United States	12-9000959-01
AC power Cord, 2.5m, EU / Korea, C13 connector	Europe / Korea	12-9000960-01
AC power Cord, 2.5m, UK, C13 connector	UK	12-9000961-01
AC power Cord, 2.5m, CHINA, C13 connector	China	12-9000962-01
KIT, Power Supply for Cradle / Charger, HS-360X Wireless Type (A / C Power Cord Required)	Common	98-9000181-01
KIT, Power Supply for Battery Charger, 4 Slot, HS-360X Wireless Type (A / C Power Cord Required)		98-9000182-01
4 Slot, Battery Charger, HS-360X Wireless Type (Power Supply Required)		98-9000185-01
Intelligent Stand		98-9000186-01

Laser Barcode Scanner

Handheld Code Reader

Multi Code Reader

Code Verification System

Handheld DPM Code Reader HS-360X series

Ratings and Specifications

Applicable codes	1D	UPC / EAN, UPC / EAN with supplementals, Bookland, EAN, ISSN, UCC Coupon Extended Code, Code 128, GS1-128, ISBT 128, ISBT Concatenation, Code 39, Code 39 Full ASCII, Trioptic Code 39, Code 32, Code 93, Code 11, Interleaved 2 of 5, Discrete 2 of 5, Codabar, MSI, Chinese 2 of 5, Matrix 2 of 5, Korean 3 of 5, GS1 DataBar variants
	2D	PDF417, MicroPDF417, Composite Codes, TLC-39, Data Matrix, Maxicode, QR Code, MicroQR, Aztec, Han Xin, GS1-QR, GS1-DM
	Postal	US Postnet, US Planet, UK Postal, Japan Post, Australia Post, Royal Mail 4 State Customer, KIX Code (Dutch), UPU 4 State Postal FICS (Post US4), USPS 4 State Postal (Post US3)
Reading performance	Field of view (Horizontal x Vertical) nominal	31° (H) × 23° (V)
	Roll	0 to 360°
	Pitch	±60°
	Skew	±60°
	Scans per charge	Up to 100,000
	Minimum resolution	Code 39: 0.0762 mm PDF417: 0.1016 mm DataMatrix: 0.1016 mm
Interface		USB, RS-232 The scanner supports the following protocols over USB: HID Keyboard (default mode), SNAPI, COM Port Emulation, USB CDC
Power		5 VDC + / - 10% @ 360 mA (RMS typical)
Light source		Aiming pattern: 655 nm Laser / Illumination: Warm white and red 634nm LEDs
Environmental specifications	Ambient temperature range	Wireless Scanner Operating: -20 to +50°C, Storage: -40 to +70°C Wired Scanner Operating: -30 to +50°C, Storage: -40 to +70°C
	Ambient humidity range	5%RH to 95%RH (with no icing or condensation),
	Drop specifications	Withstands multiple 8 ft. / 2.4 m drops to concrete at room temperature.
	Degree of protection	IP65 and IP67
	ESD	20 kV air discharge: 10 kV contact discharge
	Ambient light immunity	0 to 10,037 foot-candles / 0 to 108,000 Lux (direct sunlight)
Weight		Wireless Scanner: Approx. 402 g (with Battery) Wired Scanner: Approx. 304 g (without Cable)
Dimensions		Wireless Scanner: 185 mm (H) × 143 mm (D) × 77 mm (W) Wired Scanner: 185 mm (H) × 132 mm (D) × 77 mm (W)

Cradle

Power requirements for host-powered	5.0V ± 10%
Power requirements for external power supply	12.0V ± 5%
Typical current draw when not charging	80mA @ 5V; 30mA @ 12V
Typical current draw in safe charging mode	1200mA @ 5V (BC 1.2), 475mA (non-BC1.2); 700mA @ 12V
Typical current draw in safe charging mode	400mA @ 5V; 200mA @ 12V
Interfaces	USB, RS-232
Radio	Bluetooth, Up to 100 meters / 300 ft. in open air range / environment Serial Port & HID Profiles 2.402 to 2.480 GHz Adaptive Frequency Hopping (co-existence with 802.11 wireless networks) 3Mbit / s (2.1Mbit / s) for Classic Bluetooth 1Mbit / s (0.27Mbit / s) for Low Energy
Ambient temperature range	Operating : -20 to 50°C, Storage : -40 to 70°C
Charging temperature	0 to 40°C nominal, 5 to 35°C ideal
Ambient humidity range	5%RH to 95%RH (non-condensing)
ESD	25 kV air discharge 10 kV contact discharge
Weight	Approx. 390 g
Dimensions	82.6 mm (H) × 229.4 mm (D) × 99.8 mm (W)
Safety standards	UL / EN / IEC 60950-1 + AM2
EMC	IEC61000-4-(2,3,4,5,6,11)
EMI	FCC Part 15 Class B, ICES-003 Class B Japan VCCI Class B

Handheld DPM Code Reader HS-360X series

Read Ranges

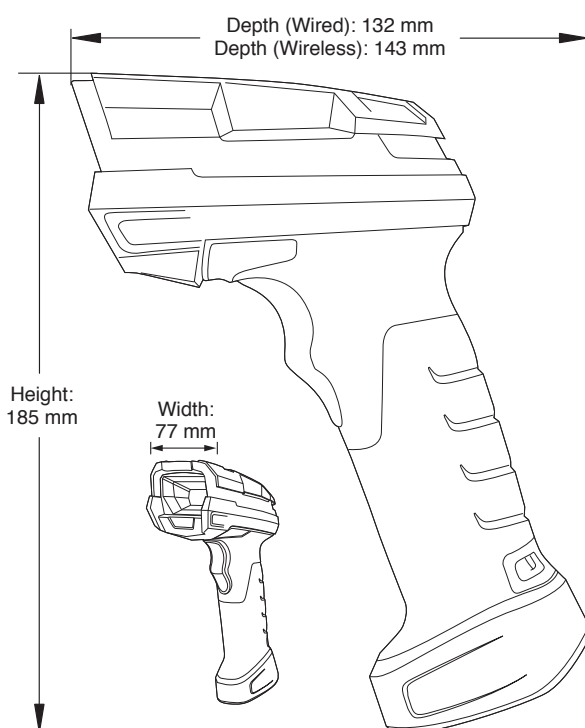
(Unit: mm)

Barcode Type	Symbol Density	HS-360X Typical Working Ranges	
		Near	Far
Code 39	0.0762 mm	5 mm	71 mm
	0.127 mm	5 mm	71 mm
PDF417	0.1524 mm	5 mm*	81 mm
	0.127 mm	10 mm	63 mm
Data Matrix	0.254 mm	0 mm	86 mm
	0.127 mm	10 mm	63 mm
QR	0.254 mm	0 mm	86 mm
UPC	0.3302 mm	25 mm*	147 mm*

* Field of view/barcode width limited. Decode ranges measured with DPM Mode Off, photographic paper barcodes and under 30fcd ambient light conditions.

Dimensions

(Unit: mm)



Laser Label Indications

This warning label is attached to the Code Reader.
Never remove this label or place objects in front of it.

Auto Focus Multi Code Reader

V430-F series**Auto Focus Multi Code Reader**

Powerful functionality in a compact design. The V430-F reliably reads different codes at different distances using the liquid lens.

V430-F: At a Glance

- Best in class: 5 Mpix *1
- Smallest in class *2
- Reading distance: 50 to 300 mm
- Maximum skew / pitch: 30°

Liquid lens for autofocus

The V430-F uses a liquid lens that does not need a drive mechanism or motor, providing unlimited autofocus and long life.

Applicable standards

- ISO / IEC 15415
- ISO / IEC 15416
- ISO / IEC TR29158 (AMD PM-1-2006)
- ISO / IEC 16022

Quick troubleshooting from web browser

The V430-F has pre-installed software for setup. You can easily troubleshoot using a PC or tablet with the browser-based interface.

Print Quality Grading function

This function enables an in-line check of the relative quality change and the parameter where the change occurred.

V430-F: Available Codes**Linear**

All Standard

**Stacked**

PDF417



GS1 Databar

**2D Code**

Data Matrix



QR



Micro QR



Refer to the V430 series catalog (Cat. No. Q258) for details.

*1. Fixed mount multi code reader. Based on Omron investigation in March 2018.

*2. Fixed mount multi code readers with 1.2 Mpix or more. Based on Omron investigation in March 2018.

Auto Focus Multi Code Reader V430-F series

Ordering Information

Code Readers

Number of pixels	Field of view	Reading distance *	Model
5 million pixels (Color)	Wide View	Autofocus 50 to 300 mm	V430-F000W50C
	Middle View		V430-F000M50C
1.2 million pixels (Monochrome)	Wide View	Autofocus 50 to 300 mm	V430-F000W12M
	Middle View		V430-F000M12M
	Narrow View	Autofocus 40 to 150 mm	V430-F000N12M
0.3 million pixels (Monochrome)	Middle View	Fixed Focus 50 mm	V430-F050M03M
		Fixed Focus 81 mm	V430-F081M03M
		Fixed Focus 102 mm	V430-F102M03M

* Refer to Read Ranges on p.31 for detail.

Mounting Brackets

Type	Model
Angle adjustable Bracket (L Bracket)	V430-AM0
Mounting Block	V430-AM1

Cables

Type	Connector	Length	Model
I/O Cable	Straight	3m	V430-W8-3M
	Straight	5m	V430-W8-5M
	Right angle down	3m	V430-W8LD-3M
	Right angle up	3m	V430-W8LU-3M
Ethernet Cable	Straight	3m	V430-WE-3M
	Straight	5m	V430-WE-5M
	Right angle down	3m	V430-WELD-3M
	Right angle up	3m	V430-WELU-3M
Cordset, M12 12-pin Socket to DB9 Socket with M12 12-pin Plug	Straight	3m	V430-W2-3M

Optics Options

Type	Model
Front Window (for replacement)	V430-AF0
Diffuser	V430-AF1
Polarizer	V430-AF2
Right Angle Mirror	V430-AF3

Auto Focus Multi Code Reader V430-F series

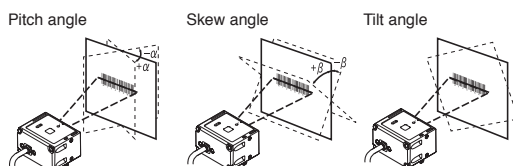
Ratings and Specifications

Model		V430-F000□50C	V430-F000□12M	V430-F□□□M03M
Applicable codes *1	Bar code	Code 39, Code 128, BC412, ITF (Interleaved 2 of 5), EAN / UPC, Codabar, Code 93, Pharmacode, PLANET, POSTNET, Japanese Post, Australian Post, Royal Mail, Intelligent Mail, KIX, UPU, GS1 Databar (Composite)		
	2D code	DataMatrix (ECC000-ECC200), GS1 DataMatrix, QR Code, Micro QR Code, Aztec Code, DotCode, PDF417, Micro PDF417, GS1 Databar (Stacked)		
Reading performance *2	Number of reading digits	No upper limit (depends on bar width and reading distance)		
	Aiming light	Two Blue LEDs		
	Light source	Inner LEDs: Four White and Four Red LEDs (wave length: 625 nm)		
		Outer LEDs: Eight White LEDs	Outer LEDs: Eight Red LEDs (wave length: 617 nm)	Outer LEDs: Eight Red LEDs (wave length: 617 nm)
	Reading distance / Field of view	Refer to Read Ranges on page 31 for detail.		
	Pitch angle (α)	$\pm 30^\circ$		
	Skew angle (β)	$\pm 30^\circ$		
	Tilt angle (γ)	$\pm 180^\circ$		
Image capture device	Effective pixels	2592 (H) x 1944 (V)	1280 (H) x 960 (V)	752 (H) x 480 (V)
	Color / Monochrome	Color CMOS	Monochrome CMOS	Monochrome CMOS
	Shutter method	Rolling shutter	Global shutter	Global shutter
	Frame rate	5 fps	42 fps	60 fps
	Shutter speed	50 us to 100 ms		
Image logging		FTP		
Reading trigger		External trigger (edge, level), Trigger by command (Ethernet, RS-232C)		
I / O specifications	Input signals	Trigger, New Master: 4.5 to 28 V rated (10 mA at 28 VDC)		
	Output signals	Output1, Output2, Output3: 1 to 28 V rated (100 mA Max. at 24 VDC)		
	Communication specification	RS-232C, Ethernet TCP / IP		
	Ethernet specifications	100BASE-TX / 10BASE-T		
Indicator lamps		PASS (Green), TRIG (Amber), MODE (Amber), LINK (Amber), FAIL (Red), PWR (Green)		
Power voltage		5.0 to 30.0 VDC (including ripple)		
Consumption current		0.18 A (typ.) (at 24 VDC)		
Environmental specifications	Ambient temperature range	Operating: 0 to 40°C, Storage: -50 to +75°C (with no icing or condensation)		
	Ambient humidity range	Operating: 5 to 95%RH, Storage: 5 to 85%RH (with no condensation)		
	Ambient atmosphere	No corrosive gases		
	Vibration resistance (destruction)	10 to 55 Hz, double amplitude: 0.35 mm, X / Y / Z directions, 10 cycles / axis		
	Shock resistance (destruction)	150 m / s ² , 3 times in each X / Y / Z directions		
	Degree of protection	IEC 60529 IP67		
Weight	Main body only	Approx. 68 g		
	Packing weight	Approx. 174 g		
Dimensions	Main body Dimension	44.5 (W) x 44.5 (D) x 25.4 (H) mm		
	Packing Dimension	170 (W) x 117 (D) x 86 (H) mm		
Accessories		Instruction manual ("Read me first"), Compliance Sheet (CE)		
LED class		Risk Group Exempt (IEC 62471-1)		
Safety standards		EN61326-1: 2013 FCC Part 15, Subpart B (Class A) UL60950-1		
Material	Case	Aluminum diecast, alumite (black)		
	Reading window	Acrylic		

*1. These are the code types supported based on Omron's read capability validation standard. It is recommended that the customer do its own validation in its actual work environment.

*2. Unless otherwise specified, the reading performance is defined with center of field of view, angle R=∞.

*3.



Auto Focus Multi Code Reader V430-F series

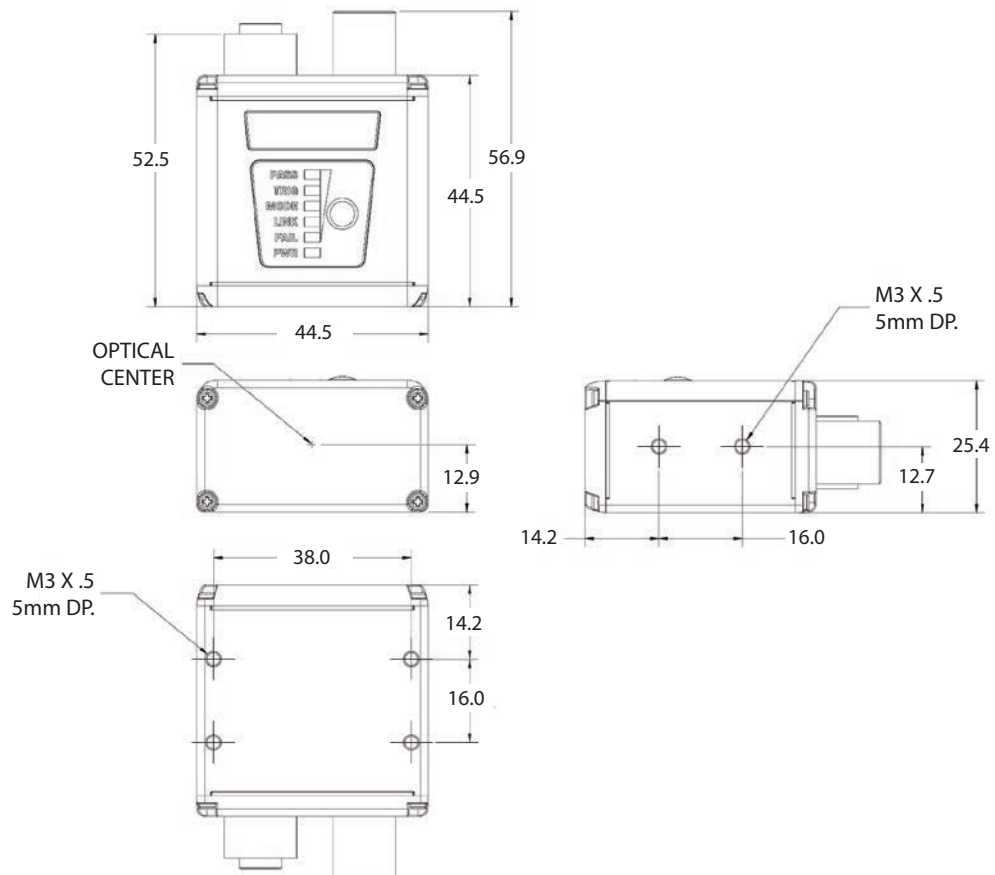
Read Ranges (Reference)

			Reading distance (mm)	Field of view (mm)		Reading ranges (mm)		Minimum 2D cell size (Reference) (mm)
				Horizontal	Vertical	Inside	Outside	
5 million pixels	Wide View V430-F000W50C		50	51	37	43	59	0.09
			102	96	75	80	124	-
			300	265	210	203	397	-
	Middle View V430-F000M50C		50	35.5	25	46.5	54.5	0.09
			102	66	49	94	110	-
			300	184	143	227	373	-
1.2 million pixels	Wide View V430-F000W12M		50	57.2	42.9	37	64	0.13
			102	109.5	82.2	74	131	-
			300	314.3	235.7	224	427	-
	Middle View V430-F000M12M		50	36.5	27.4	47.5	55	0.09
			102	71.4	53.6	88	116	-
			300	198.4	148.8	185	400	-
	Narrow View V430-F000N12M		40	10	7.5	38.5	41.5	0.05
			81	20.6	15.4	78.5	83.5	-
			150	39	29.5	132	153	-
0.3 million pixels	Middle View	V430-F050M03M	50	35	21.5	43	58	0.13
		V430-F081M03M	81	49	33	65	97	0.19
		V430-F102M03M	102	65	41	83	121	0.26

Dimensions

(Unit: mm)

Code Reader V430-F



Related Manuals

Cat. No.	Model	Manual
Z392	V430	Auto Focus Multi Code Reader V430-F-series User's Manual

Code Verification System

LVS-9510 series**Desktop Barcode Verification System**

Comes with handheld top cover (not shown) to keep label in position on viewing window.

The LVS-9510 is a high-performance system for off-line verification of barcodes to ISO / IEC, ANSI, GS1, and UDI standards.

The LVS-9510 is unique in the world of ISO verification due to its ease of use and ability to verify linear (1D) and two-dimensional (2D) codes without any change of equipment. The system automatically determines the symbology and aperture needed to evaluate the code and identifies and highlights trouble spots.

The LVS-9510 offers a "stitching" feature that allows grading of barcodes that are larger than the field of view.

LVS-9510: At a Glance

- Validates to ISO / IEC, ANSI, GS1, and UDI print quality standards.
- Software upgrade options include Multi-Sector for verification of multiple barcodes on a label.
- 21 CFR Part 11 compliant-ready.
- Certified by GS1 US.
- Supports 15 languages with the ability to add more languages.
- Quality data reporting for auditing purposes.
- Manage operator permissions using LVS-95XX software or using Microsoft Active Directory.
- Includes NIST-Traceable Calibrated Conformance Standard Test Card for calibrating the system.

ISO / ANSI for 1D

LVS-95XX series barcode verifiers inspect all nine ISO / ANSI parameters for linear (1D) barcodes, have the ability to identify blemishes, and can perform simple human-readable validation.

ISO / ANSI for 2D

The LVS-95XX series verifies 2D codes and reports all parameters as specified in the applicable symbology specification.

Software Upgrade: EAIV

The Enhanced Application Identifier Verification (EAIV) option verifies that all GS1 Application Identifiers, such as Expiration Date, Global Trade Item Number (GTIN), and Batch Number, embedded in the data structure of a GS1 barcode match the data programmed in the EAIV feature by the user.

User Permission Options

Manage permissions through LVS-95XX software: Passwords are stored in a local database. All passwords are encrypted, include an expiration date, and count failed password attempts.

Analytical Tools

Equipped with numerous analytical tools to identify and evaluate barcode errors. Problems are color-coded to make problem solving easy.

Manage permissions through Microsoft Active Directory: User privileges are based on Microsoft authentication and LVS-95XX permissions are assigned based on group membership.

LVS-9510: Available Symbolologies

Linear	Standard	Postal		
2D	Data Matrix	QR	Micro QR	Aztec
Stacked	MicroPDF	PDF417	GS1 Databar	

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

Software

LVS-95XX software includes GS1 System Symbol Specification Tables. GS1 tables set standards for barcode data structure and how to maintain the quality of codes during barcode creation. OMRON Microscan offers an online training course on GS1 tables and how these apply to different organizations.

Code Verification System LVS-9510 series

Ordering Information

Code Verification Systems

Type	Field of view	Model
LVS-9510 Verifier	76mm	9510-5-3.0
	102mm	9510-5-4.0
	144mm	9510-5-4.5
	159mm	9510-5-6.250

Accessories

Type	Model
EAN / UPC Calibrated Conformance Test Card	98-CAL020
GS1-128 Calibrated Conformance Test Card	98-CAL021
Data Matrix Calibrated Conformance Test Card	98-CAL010
LVS-9510 and LVS-958□ Software Upgrade Option: Multi-Sector Verification	98-SOF0039
LVS-95□□ Software Upgrade Option: Automatic Login Feature	98-SOF0056
Software Upgrade Option: EAIV (Enhanced Application Identifier Verification)	98-SOF0088
LVS-95□□ IQ-OQ Validation Procedure Guidelines, v. 4.3 and later (includes text cards)	98-LVS0077
Validation Test Cards (25 test cards)	98-LVS-VTC

Code Verification System LVS-9510 series

Ratings and Specifications

Supported standards	Application standards	AIAG / DAMA / JAPIA / Odette
		ALDI
		ISO / IEC TR 29158 (DPM Cat 0)
		DHL
		FPMAJ
		French CIP
		GS1 General Specifications
		HDMA Guidelines
		Health Industry Barcode (HIBC)
		IFAH
		ISO / IEC 15415 / 15416
		Italian Pharmacode
		Japan Codabar
		Laetus Miniature Pharmacode
		Laetus Pharmacode
		Laetus Standard
		MIL-STD-130N Change 1
		Pharmacy Product Number (PPN)
		Automatic GS1 or ISO
		Chinese Sensible (Han Xin) Code
		GS1 General Specifications
		GS1 (NTIN)
		HDMA Guidelines
		Miniature Pharmacode
	Postal (EIB, USPS IMB / Code 128, POSTNET, Japan Post)	
	PPN Code	
	PZN-big, normal, small (German Pharmacode)	
	PZN 7 and PZN 8	
	GS1 US certification	Data Matrix for Healthcare
		Data Matrix (ECC 200)
		EAN / UPC
		EAN / UPC and extended codes
		EAN / UPC with CC
		GS1 DataBar Omnidirectional
ITF-14		
GS1 DataBar-14 with CC (formerly RSS-14 with CC)		
UCC / EAN with Supplementals		
UCC / EAN-128		
UCC / EAN-128 with CC		
ISO conformance standards	ISO / IEC 15415, 15416, 15418	
	ISO / IEC 15426-1, 15426-2	
	ISO / IEC TR29158 (DPM Cat 0) / AIM DPM-1-2006	
	All supported ISO / IEC symbology specifications	
Supported symbologies	Linear (1D) symbologies	Codabar
		Code 128, Code 39, Code 93
		GS1 DataBar Expanded and Limited
		DataBar
		DataBar Expanded and Limited
		DataBar Omnidirectional
		DataBar Stacked and Truncated
		EAN / JAN-13
		EAN / JAN-8
		Enterprise Intelligent Barcode (EIB) 4-State (4SB)
		GS1-128
		Hanxin Code
		HIBC
		Interleaved 2 of 5 (ITF)
		ITF-14
		Japan Post
		MSI Plessey
		Pharmacode–Italian and Laetus
		PZN 7, PZN 8
		UPC-A, UPC-E
	USPS-128	
	USPS Intelligent Mail Barcode (4-State Customer Barcode)	
	Two-dimensional (2D) symbologies	Aztec
		DataBar with CC-A, CC-B, or CC-C
		EAN/JAN-13 with CC-A, CC-B, or CC-C
		EAN/JAN-8 with CC-A, CC-B, or CC-C
		ECC-200 (Data Matrix)
		• EIB CMDM
		• French CIP
		• GS1 Data Matrix
		• NTIN and PPN
		GS1-128 with CC-A, CC-B, or CC-C
		MaxiCode
		Micro QR Code
		MicroPDF417
		PDF417
		QR Code
		UPC-A with CC-A, CC-B, or CC-C
		UPC-E with CC-A, CC-B, or CC-C

* Contact OMRON for a complete list of supported ECC-200 (Data Matrix) codes.

CC=Composite Components

Code Verification System LVS-9510 series

Minimum PC requirements (PC supplied by customer)		<ul style="list-style-type: none"> • Windows® 7 Professional, Windows® 8.1 Pro, or Windows® 10 Pro • Intel® Core™ 2 Duo Processor or higher • 2 GB RAM • 800 x 600 screen resolution • One USB 2.0 port available per unit
Camera		Monochrome 5 million pixels
Illumination		White LED, red filter (660 nm)
Environmental specifications	Ambient temperature range	Operating: 10 to 30°C, Storage: 0 to 40°C
	Ambient humidity range	Operating: 20% to 80% (with no icing or condensation), Storage: 20% to 95% (with no icing or condensation)
Communications		USB 2.0 A plug to B plug cable, 1.8 m
Power voltage		12 VDC at 2.5 A max.
Weight	Unpackaged standalone	Approx. 2.72 kg
	Shipping weight	Approx. 5.89 kg (Includes all items packaged in shipping box, such as power supply and cables)
Dimensions		279.4 x 228.6 x 279.4 mm (H x D x W) (Includes rubber feet on system base)
Top cover	Dimensions	139.7 x 190.5 mm
	Weight	Approx. 155.92 g
Safety standards		FCC, CE, UL
Calibrated Conformance Test Card (Included with system)		<ul style="list-style-type: none"> • Included with 9510-5-3.0: EAN / UPC Calibrated Conformance Standard Test Card • Included with 9510-5-4.0: EAN / UPC Calibrated Conformance Standard Test Card • Included with 9510-5-4.5: EAN / UPC Calibrated Conformance Standard Test Card • Included with 9510-5-6.250: GS1-128 Calibrated Conformance Standard Test Card
Calibrated Conformance Test Card (Option)		<ul style="list-style-type: none"> • EAN / UPC Calibrated Conformance Standard Test Card (Model: 98-CAL020) • GS1-128 Calibrated Conformance Standard Test Card (Model: 98-CAL021)

Options

Field of View Options

Model	Minimum X dimension (nominal)		Field of view (approximate)
	1D	2D	
9510-5-3.0	0.10 mm	0.15 mm	76 mm
9510-5-4.0	0.15 mm	0.23 mm	102 mm
9510-5-4.5	0.18 mm	0.25 mm	144 mm
9510-5-6.250	0.24 mm	0.33 mm	159 mm

Dimensions

(Unit: mm)



Code Verification System

LVS-9585 series**Portable Barcode Verification System**

The LVS-9585 is a high-performance handheld solution for off-line barcode verification to ISO / IEC, ANSI, and GS1 standards. Featuring a high-resolution 5.0 megapixel camera, the LVS-9585 reads and analyzes linear (1D) and two-dimensional (2D) codes up to 76.19 mm wide and up to 57.15 mm tall. 1D and 2D direct part marks (DPM) of up to 44 mm x 44 mm can be verified to MIL-STD-130, ISO, and GS1 standards.

The LVS-9585 verifies multiple symbologies, including any combination of linear, 2D (Data Matrix, QR Code, and Aztec Code), and stacked linear (PDF417, MicroPDF, and Composite codes).

Powered by a 2.0 m USB 2.0 cable, the LVS-9585 verifies barcodes on a wide range of surfaces including plastics, PCBs, metal, cardboard, and shipping containers.

LVS-9585: At a Glance

- Verify a broad variety of direct part marks as well as 1D and 2D printed barcodes with a single model.
- Software automatically selects best lighting performance from integrated red or white dome and 30° angle lighting.
- Validates printed barcodes to ISO / IEC, ANSI, GS1, and UDI print quality standards.
- Validates direct part marks (DPM) to ISO, MIL-STD-130, and GS1 standards.
- Software options include Multi-Sector for verification of multiple barcodes and GS1 AI content check.
- 21 CFR Part 11 compliant-ready.
- Supports 15 languages with the ability to add more.
- Export verification reports to Excel or SQL database.
- Includes NIST-Traceable Calibrated Conformance Standard Test Card for calibrating the system.
- Optional adjustable mounting stand.

LVS-9585: Available Symbologies

Linear	Standard	Postal					
							
2D	Data Matrix	QR	Micro QR	Aztec			
							
	MicroPDF	PDF417	GS1 Databar				
							
Stacked							

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

ISO/ANSI for 1D

LVS-95XX series barcode verifiers inspect all nine ISO and ANSI parameters for linear (1D) barcodes, have the ability to identify blemishes, and can perform simple human-readable validation.

ISO/ANSI for 2D

The LVS-95XX series verifies 2D codes and reports all parameters as specified in the applicable symbology specification.

Analytical Tools

Equipped with numerous analytical tools to identify and evaluate barcode errors. Problems are color-coded to make problem solving easy.

Software

LVS-95XX software includes GS1 System Symbol Specification Tables. GS1 tables set standards for barcode data structure and how to maintain the quality of codes during barcode creation. OMRON Microscan offers an online training course on GS1 tables and how these apply to different organizations.

Software Upgrade: EAIV

The Enhanced Application Identifier Verification (EAIV) option verifies that all GS1 Application Identifiers, such as Expiration Date, Global Trade Item Number (GTIN), and Batch Number, embedded in the datastructure of a GS1 barcode match the data programmed in the EAIV feature by the user.

User Permission Options

Manage permissions through LVS-95XX software: Passwords are stored in a local database. All passwords are encrypted, include an expiration date, and count failed password attempts.

Manage permission through Microsoft Active Directory: User privileges are based on Microsoft authentication and LVS-95XX permissions are assigned based on group membership.

Portability

Connects to the latest Windows OS tablets.

Code Verification System LVS-9585 series

Ordering Information

Code Verification Systems

Type	Model
LVS-9585 Handheld 1D, 2D & DPM Barcode Verification, High Resolution	9585-DPM-HD
LVS-9585 Handheld 1D, 2D & DPM Barcode Verification, Red and White Light	9585-DPM

Accessories

Type	Model
EAN / UPC Calibrated Conformance Test Card	98-CAL020
GS1-128 Calibrated Conformance Test Card	98-CAL021
Data Matrix Calibrated Conformance Test Card	98-CAL010
LVS-9510 and LVS-958□ Software Upgrade Option: Multi-Sector Verification	98-SOF0039
LVS-95□□ Software Upgrade Option: Automatic Login Feature	98-SOF0056
Software Upgrade Option: EAIV (Enhanced Application Identifier Verification)	98-SOF0088
LVS-9580 Upgrade (1D / 2D to DPM)	98-SOF0095
LVS-95□□ IQ-OQ Validation Procedure Guidelines, v. 4.3 and later (includes text cards)	98-LVS0077
Validation Test Cards (25 test cards)	98-LVS-VTC
LVS-9580 / 9585 Mounting Stand Adapter Bracket for use with AMSCOPE BSS-140	98-9000200-01

Code Verification System LVS-9585 series

Ratings and Specifications

Supported standards	Application standards	AIAG / DAMA / JAPIA / Odette
		ALDI
		ISO / IEC TR 29158
		DHL
		FPMAJ
		French CIP
		GS1 General Specifications
		HDMA Guidelines
		Health Industry Barcode (HIBC)
		IFAH
		ISO / IEC 15415 / 15416
		Italian Pharmacode
		Japan Codabar
		Laetus Miniature Pharmacode
		Laetus Pharmacode
		Laetus Standard
		MIL-STD-130N Change 1
		Pharmacy Product Number (PPN)
		Automatic GS1 or ISO
		GS1 (NTIN)
		Miniature Pharmacode
	Postal (EIB, USPS IMB / Code 128, POSTNET, Japan Post)	
	PZN-big, normal, small (German Pharmacode)	
	GS1 US certification	Data Matrix for Healthcare
		Data Matrix (ECC 200)
		EAN/UPC
		EAN/UPC and Extended Codes
		EAN/UPC with CC
		GS1 DataBar Omnidirectional
		ITF-14
		GS1 DataBar-14 with CC (formerly RSS-14 with CC)
		UCC / EAN with Supplementals
		UCC / EAN-128
UCC / EAN-128 with CC		
ISO conformance standards	ISO / IEC 15415, 15416, 15418	
	ISO / IEC 15426-1, 15426-2	
	ISO / IEC TR29158(DPM Cat 0, 1, 2) / AIM DPM-1-2006	
All supported ISO / IEC symbology specifications		
Supported symbologies	Linear (1D) symbologies	Codabar
		Code 128, Code 39, Code 93
		GS1 DataBar Expanded and Limited
		DataBar
		DataBar Expanded and Limited
		DataBar Omnidirectional
		DataBar Stacked and Truncated
		EAN/JAN-13
		EAN/JAN-8
		Enterprise Intelligent Barcode (EIB) 4-State (4SB)
		French CIP
		GS1-128
		Hanxin Code
		HIBC
		Interleaved 2 of 5 (ITF)
		ITF-14
		Japan Post
		MaxiCode
		MSI Plessey
		Pharmacode–Italian and Laetus
		PZN 7 and PZN 8
		UPC-A and UPC-E
		USPS-128
	USPS Intelligent Mail Barcode (4-State Barcode)	
	Two-dimensional (2D) symbologies	Aztec Code
		DataBar with CC-A, CC-B, or CC-C
		EAN / JAN-13 with CC-A, CC-B, or CC-C
		EAN / JAN-8 with CC-A, CC-B, or CC-C
		ECC-200 (Data Matrix)
		Enterprise Intelligent Barcode (EIB) Complex Mail Data Marks (CMDM)
		GS1-128 with CC-A, CC-B, or CC-C
		Micro QR Code
		MicroPDF417
		PDF417
		QR Code
		UPC-A with CC-A, CC-B, or CC-C
UPC-E with CC-A, CC-B, or CC-C		

* Contact OMRON for a complete list of supported ECC-200 (Data Matrix) codes.

CC=Composite Components

Code Verification System LVS-9585 series

Minimum PC requirements (PC supplied by customer)		<ul style="list-style-type: none"> • Windows®7 Pro SP1 or Windows®10 Pro • Intel® Core™ i3 or higher • 4 GB RAM • 800 x 600 screen resolution; • One USB 2.0 port available per unit
Field of view	DPM (9585-DPM)	44 x 44 mm
	HD (9585-DPM-HD)	33 x 30 mm
Minimum cell size	DPM (9585-DPM)	1D = 4.0 mils (0.10 mm) 2D = 5.9 mils (0.15 mm)
	HD (9585-DPM-HD)	2D = 2.0 mils (0.05 mm)
Camera		5 million pixels
Illumination		Object distance: Contact Red dome (660 nm), white dome, 30° angle
Environmental specifications	Ambient temperature range	Operating: 4 to 46°C, Storage: -20 to 60°C
	Ambient humidity range	Operating: 20% to 80% (with no icing or condensation), Storage: 20% to 95% (with no icing or condensation)
Communications		USB 2.0 A plug to Mini-B plug cable, 2 m
Power supply		USB powered 5 VDC at 400 mA
Weight	Unpackaged standalone	Approx. 0.68 kg
	Shipping weight	Approx. 1.51 kg (Includes all cables and other items packaged in shipping box)
Dimensions		215.9 x 139.7 x 120.6 mm (H x D x W)
Calibrated Conformance Test Card (Included with system)		EAN / UPC Calibrated Conformance Standard Test Card
Safety standards		FCC, CE, UL

Options



LVS-9580 / 9585 Mounting Stand Adapter Bracket

Model: 98-9000200-01

This adapter bracket is designed for use with an Amscope model BSS-140 stand. Together with the BSS-140, the assembly allows the verifier to be held in a fixed position, raised to a 368 mm maximum height and 495 mm horizontal adjustment. The verifier can be rotated a full 360° while mounted, allowing for alignment against the DPM symbol for a broad variety of parts.

Dimensions

(Unit: mm)



Code Verification System

LVS-9580 series**Portable Barcode Verification System**

Durable, portable
handheld verifier



Weights only 0.64kg

LVS-9580: At a Glance

- Stitching feature to grade barcodes larger than the field of view.
- Ideal for multiple line production and warehouse environments.
- Validates printed barcodes to ISO / IEC, ANSI, GS1, and UDI print quality standards.
- Validates direct part marks (DPM) to ISO, MIL-STD-130, and GS1 standards.
- Software upgrade options include Multi-Sector for verification of multiple barcodes on a label.
- 21 CFR Part 11 compliant-ready.
- Supports 15 languages with the ability to add more.
- Quality data reporting for auditing purposes.
- Includes NIST-Traceable Calibrated Conformance Standard Test Card for calibrating the system.

LVS-9580: Available Symbolologies

Linear	Standard	Postal		
2D	Data Matrix	QR	Micro QR	Aztec
Stacked	Micro PDF	PDF417	GS1 DataBar	

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

The LVS-9580 is a high-performance handheld solution for off-line barcode verification to ISO / IEC, ANSI, GS1, and UDI standards. Featuring a high-resolution 5.0 megapixel camera, the LVS-9580 reads and analyzes linear (1D) and two-dimensional (2D) codes up to 76.19 mm wide and up to 57.15 mm tall. 1D and 2D direct part marks (DPM) of up to 44 mm x 44 mm can be verified to MIL-STD-130, ISO, and GS1 standards.

The LVS-9580 verifies multiple symbologies, including any combination of linear, 2D (Data Matrix, QR Code, and Aztec Code), and stacked linear (PDF417, MicroPDF, and Composite codes).

Powered by a 2.0 m USB 2.0 cable, the LVS-9580 verifies barcodes on a wide range of surfaces including plastics, PCBs, metal, cardboard, and shipping containers.

ISO/ANSI for 1D

LVS-95XX series barcode verifiers inspect all nine ISO and ANSI parameters for linear (1D) barcodes, have the ability to identify blemishes, and can perform simple human-readable validation.

ISO/ANSI for 2D

The LVS-95XX series verifies 2D codes and reports all parameters as specified in the applicable symbology specification.

Analytical Tools

Equipped with numerous analytical tools to identify and evaluate barcode errors. Problems are color-coded to make problem solving easy.

Software

LVS-95XX software includes GS1 System Symbol Specification Tables. GS1 tables set standards for barcode data structure and how to maintain the quality of codes during barcode creation. OMRON Microscan offers an online training course on GS1 tables and how these apply to different organizations.

Software Upgrade: EAIV

The Enhanced Application Identifier Verification (EAIV) option verifies that all GS1 Application Identifiers, such as Expiration Date, Global Trade Item Number (GTIN), and Batch Number, embedded in the data structure of a GS1 barcode match the data programmed in the EAIV feature by the user.

User Permission Options

Manage permissions through LVS-95XX software: Passwords are stored in a local database. All passwords are encrypted, include an expiration date, and count failed password attempts.

Manage permissions through Microsoft Active Directory: User privileges are based on Microsoft authentication and LVS-95XX permissions are assigned based on group membership.

Portability

Connects to the latest Windows OS tablets.

Code Verification System LVS-9580 series

Ordering Information

Code Verification Systems

Type	Model
LVS-9580 Handheld 1D & 2D Barcode Verification	9580-C-3
LVS-9580 Handheld 1D, 2D & DPM Barcode Verification	9580-DPM
LVS-9580 Handheld 1D, 2D & DPM Barcode Verification, High Resolution	9580-DPM-HD

Accessories

Type	Model
EAN / UPC Calibrated Conformance Test Card	98-CAL020
GS1-128 Calibrated Conformance Test Card	98-CAL021
Data Matrix Calibrated Conformance Test Card	98-CAL010
LVS-9510 and LVS-9580 Software Upgrade Option: Multi-Sector Verification	98-SOF0039
LVS-9500 Software Upgrade Option: Automatic Login Feature	98-SOF0056
Software Upgrade Option: EAIV (Enhanced Application Identifier Verification)	98-SOF0088
LVS-9580 Upgrade (1D / 2D to DPM)	98-SOF0095
LVS-9500 IQ-OQ Validation Procedure Guidelines, v. 4.3 and later (includes text cards)	98-LVS0077
Validation Test Cards (25 test cards)	98-LVS-VTC
LVS-9580 / 9585 Mounting Stand Adapter Bracket for use with AMSCOPE BSS-140	98-9000200-01

Ratings and Specifications

Supported standards	Application standards	AIAG / DAMA / JAPIA / Odette
		ALDI
		ISO / IEC TR 29158
		DHL
		FPMAJ
		French CIP
		GS1 General Specifications
		HDMA Guidelines
		Health Industry Barcode (HIBC)
		IFAH
		ISO / IEC 15415 / 15416
		Italian Pharmacode
		Japan Codabar
		Laetus Miniature Pharmacode
		Laetus Pharmacode
		Laetus Standard
		MIL-STD-130N Change 1
		Pharmacy Product Number (PPN)
		Automatic GS1 or ISO
		GS1 (NTIN)
	GS1 (NTIN)	Miniature Pharmacode
		Postal (EIB, USPS IMB / Code 128, POSTNET, Japan Post)
		PZN-big normal small (German Pharmacode)
		Data Matrix for Healthcare
		Data Matrix (ECC 200)
		EAN / UPC
		EAN / UPC and Extended Codes
		EAN / UPC with CC
		GS1 DataBar Omnidirectional
		ITF-14
		GS1 DataBar-14 with CC (formerly RSS-14 with CC)
		UCC / EAN with Supplementals
		UCC / EAN-128
		UCC / EAN-128 with CC
	ISO conformance standards	ISO / IEC 15415, 15416, 15418
		ISO / IEC 15426-1, 15426-2
		ISO / IEC TR29158 (DPM Cat 0) / AIM DPM-1-2006
		All supported ISO/IEC symbology specifications

Code Verification System LVS-9580 series

Supported symbologies	Linear (1D) symbologies	Codabar
		Code 128 Code 39 Code 93
		GS1 DataBar Expanded and Limited
		DataBar
		DataBar Expanded and Limited
		DataBar Omnidirectional
		DataBar Stacked and Truncated
		EAN/JAN-13
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		MaxiCode
		MSI Plessey
		Pharmacode-Italian and Laetus
		PZN 7 and PZN 8
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		USPS-128
		USPS Intelligent Mail Barcode (4-State Barcode)
	Two-dimensional (2D) symbologies	Aztec Code
		DataBar with CC-A, CC-B, or CC-C
		EAN/JAN-13 with CC-A, CC-B, or CC-C
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		ECC-200 (Data Matrix)
		Enterprise Intelligent Barcode (EIB) Complex Mail Data Marks (CMDM)
		GS1-128 with CC-A, CC-B, or CC-C
		Micro QR Code
		MicroPDF417
		PDF417
		QR Code
		UPC-A with CC-A, CC-B, or CC-C
		UPC-E with CC-A, CC-B, or CC-C
Minimum PC requirements (PC supplied by customer)		<ul style="list-style-type: none">• Windows®7 Pro SP1 or Windows®10 Pro• Intel® Core™ i3 or higher• 4 GB RAM• 800 x 600 screen resolution• One USB 2.0 port available per unit
Field of view	Standard (9580-C-3)	76.19 mm horizontal 57.15 mm vertical
	DPM (9580-DPM)	44 x 44 mm
	HD (9580-DPM-HD)	33 x 30 mm
Minimum cell size	Standard (9580-C-3)	1D = 4.0 mils (0.10 mm)
	DPM (9580-DPM)	2D = 5.9 mils (0.15 mm)
	HD (9580-DPM-HD)	2D = 2.0 mils (0.05 mm)
Camera		5 million pixels Object distance: Contact
Illumination		Red dome (660 nm)
Environmental specifications	Ambient temperature range	Operating: 4 to 46°C, Storage: -20 to 60°C
	Ambient humidity range	Operating: 20% to 80% (with no icing or condensation), Storage: 20% to 95% (with no icing or condensation)
Communications		USB 2.0 A plug to Mini-B plug cable, 2 m
Power supply		USB powered 5 VDC at 400 mA
Weight	Unpackaged standalone	Approx. 0.64 kg
	Shipping weight	Approx. 1.81 kg (includes all cables and other items packaged in shipping box)
Dimensions		215.9 x 139.7 x 120.6 mm (H x D x W)
Calibrated Conformance Test Card (Included with system)		EAN / UPC Calibrated Conformance Standard Test Card
Safety standards		FCC, CE, UL

* Contact OMRON for a complete list of supported ECC-200 (Data Matrix) codes.

CC=Composite Components

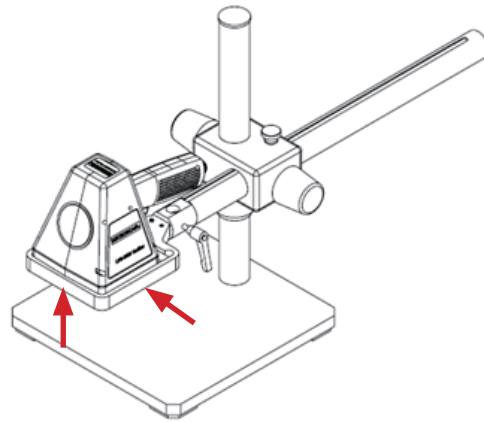
Code Verification System LVS-9580 series

Options



LVS-9580 / 9585 Mounting Stand Adapter Bracket
Part Number 98-9000200-01

This adapter bracket is designed for use with an Amscope model BSS-140 stand. Together with the BSS-140, the assembly allows the verifier to be held in a fixed position, raised to a 368 mm maximum height and 495 mm horizontal adjustment. The verifier can be rotated a full 360° while mounted, allowing for alignment against the DPM symbol for a broad variety of parts.



Dimensions

(Unit: mm)



MEMO

Laser Barcode Scanner

Handheld Code Reader

Multi Code Reader

Code Verification System

MEMO

Laser Barcode Scanner

Handheld Code Reader

Multi Code Reader

Code Verification System

MEMO

Laser Barcode Scanner

Handheld Code Reader

Multi Code Reader

Code Verification System

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