

**Versatility and high performance have been built into every feature of the MS-880, providing the flexibility to solve a multitude of bar code scanning applications, under a variety of factory conditions.**

A heavy duty scanner designed for industrial automation, the MS-880 offers robust features including; wireless programming, autofocus, windows based software, linear and 2-D code reading, and multiple protocol options.

The MS-880 is the ideal scanner for any facility looking to simplify equipment purchase by selecting one scanner model for use throughout the factory floor in a variety of applications. As bar code requirements change, adjustments can quickly be made to the scanner to fit the needs of the application.

## MS-880

## INDUSTRIAL AUTOMATION SCANNER

**Long Read Range:** The MS-880 optics were designed for successful reading at extended or varying distances, such as a safety or clearance zone required around conveyor or assembly areas.

The MS-880 reads out to 90 inches (228.6 cm) on a 20 mil label.

**Autofocus:** This setting is part of the autocalibration feature which automatically determines and selects optimal read settings for:

- Focus
- Gain
- Tracking

**Programmable Raster:** The scan area can be optimized for applications that may require:

- Reading multiple symbols
- Inconsistently placed labels
- Reading PDF417 code

**Optional Wiring Box, IB-880:** Flexible and easy integration are attained without special cables or connectors. See the IB-880 specification sheet for complete details.

- Pluggable relay modules
- Terminal strip connectivity
- Connectivity with hand-held scanners
- Multiple protocol communications

**Integrated Industrial Protocols:**

- DeviceNet
- Ethernet (Modicon)
- Profibus
- DataHighway Plus

**Multiple Programming Methods:** The MS-880 can be programmed while still on the line via a separate programming port, or the wireless IrDA port. Four programming methods:

- ESP™-MP software (compatible with Windows 95, 98, 2000 and NT)
- Embedded menus
- Serial commands
- Bar code programming

**Wireless Communications:** The IrDA port allows programming via palm computers and laptops.

**Bar Code Symbologies:** The MS-880 reads PDF417 and AIAG formats, as well as all standard linear symbologies which include:

- Code 39
- Code 128
- UPC/EAN
- Interleaved 2 of 5
- UCC/EAN-128
- Codabar
- Code 93
- Pharma Code

Other codes are available; call Microscan more for details.



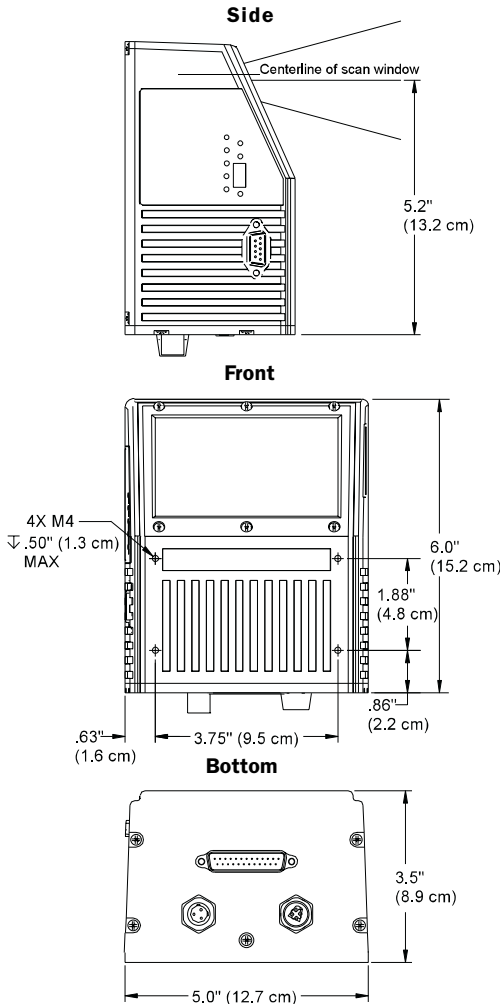
**Visible Read Indicators:** Visible LEDs on the MS-880 show if the labels are being successfully read, allowing line workers to check the scanner's performance instantly.

# MS-880 INDUSTRIAL AUTOMATION SCANNER

## SPECIFICATIONS AND OPTIONS

### MECHANICAL

**Length:** 3.5" (8.8 cm)  
**Width:** 5" (12.7 cm)  
**Height:** 6" (15.2 cm)  
**Weight:** 4 lbs. (1.8 kg)



### ENVIRONMENTAL

**Enclosure:** IP65  
**Operating temperature:** 0° to 50°C (32° to 122°F)  
**Storage temperature:** -50° to 75°C (-63° to 167°F)  
**Humidity:** Up to 90% (non-condensing)

### LASER LIGHT

**Type:** Semiconductor visible laser diode (650 nm nominal)  
**Operating life:** 40,000 hours @ 25°C (77° F)  
**Safety class:** CDRH Class II

### SCANNING PARAMETERS

**Scanner mirror type:** Rotating, single line, 14-faceted mirror  
**Scan rate:** Adjustable from 400 to 1000 scans/second (default = 400 sps)  
**Raster Sweep Speed:** 1 to 10 sweeps per second  
**Raster Sweep Angle:** 30° maximum  
**Pitch Angle:** ±50° maximum  
**Skew Angle:** ±40° maximum  
**Label contrast:** 25% min. absolute dark to light differential at 650 nm wavelength

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

Label Size	Scanning Distance
7.5 mil (.1905 mm)	10" to 35" (25.4 to 88.9 cm)
10 mil (.254 mm)	10" to 44" (25.4 to 111.8 cm)
15 mil (.381 mm)	10" to 74" (25.4 to 188 cm)
20 mil (.508 mm)	10" to 90" (25.4 to 228.6 cm)
30 mil (.762 mm)	10" to 100" (25.4 to 254 cm)
40 mil (1.016 mm)	10" to 110" (25.4 to 279.4 cm)
50 mil (1.27 mm)	10" to 120" (25.4 to 304.8 cm)

<sup>1</sup> Readings are using a Code 39 grade A label

### CONNECTORS/PIN ASSIGNMENTS

**Program Connector:** 9-pin D-subminiature plug

Pin No.	Function
2	RX232
3	TX232
5	Signal ground
9	Boot mode

**Power Connector:** 3-pin MicroChange

Pin No.	Function
1	Power ground
2	NC
3	Power 10 to 28 VDC (in)

**Trigger Connector:** 4-pin MicroChange

Pin No.	Function
1	Power 10 to 28 VDC (out)
2	NPN
3	Ground
4	N/C

**Host Connector:** 25-pin D-subminiature plug

Pin No.	Function
1	Chassis Ground
2	Transmit data (RS-232) (out)
3	Receive data (RS-232) (in)
4	Request-to-send (out)/Aux TXD RS-232
5	Clear-to-send (in)/Aux RXD RS-232
6	Output 1 + (out)
7	Signal ground
8	Output 2 + (out)
9	Trigger - (in)
10	Trigger + (in)
11	N/C
12	Input-1 + (in)
13	RXD RS-422/485 + (in)
14	TXD RS-422/485 - (out)
15	Noread/Output 3 + (out)
16	RXD RS-422/485 - (in)
17	Power ground
18	Power 10 to 28 VDC (in)
19	TXD RS-422/485 + (out)
20	Output 1 - (out)
21	Output 2 - (out)
22	Noread/Output 3 - (out)
23	Input 1 - (in)
24	New master - (in)
25	New master + (in)

### COMMUNICATION

**Interface:** RS-232, RS-422/485, IrDA port, Daisychain/auxiliary port capable.  
**Interface with IB-880 Wiring Box (optional):** DeviceNet, Profibus, Ethernet or Data Highway Plus

### CODE TYPES

**Standard codes:** Code 39, Code 128, UPC/EAN, Interleaved 2 of 5, Codabar, Code 93, PDF417, Pharma Code.

**Applications Standard:** AIAG, UCC/EAN-128

### ELECTRICAL

**Power Requirement:** Input, 10-28 VDC, 200 mV p-p max. ripple, 6.0 watts rated (typ.)

### CE Mark

**EN55022:** 1998 Limits & Methods: ITE Disturbances  
**EN55024:** 1998 (General Immunity: Residential)  
**EN61000-6-2:** 1999 (Heavy Industrial: Immunity)

### INDICATORS

**Beeper:** Good read, match/mismatch, noread, serial command confirmation

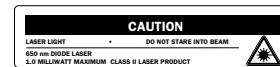
**LEDs:** 1 status, 1 power, 5 read performance (representing percentage of good decodes)

### DISCRETE I/O

**Inputs (trigger, newmaster, input1)** Opto-isolated, 5-28V rated,  
**Outputs (1, 2, 3):** Opto-isolated, 10-28V rated, (I<sub>CE</sub> < 100 mA @ 24 VDC, current limited by user)

### SAFETY CERTIFICATIONS

Designed for FCC, CDRH, CE, UL/cUL, TÜV, BSMI



ISO 9001/Cert. No. 00-1047

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 Specifications subject to change.  
 Updates to this specification can be found on-line at [www.microscan.com](http://www.microscan.com).

Product specifications are given for typical performance at 25°C (77°F) using grade A labels. Some performance characteristics may vary at high temperatures or other environmental extremes.

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