

**Capable of decoding 2,000 scans per second in real time, the MS-911 delivers a decode rate unmatched among small fixed mount scanners.**

Ideal for high speed applications, the MS-911's superior processing also benefits other applications by providing multiple looks at a given label, which ensures good reads. This versatile scanner reads all standard bar codes as well as OMR (Optical Mark Recognition). Easily integrated into existing machinery, the MS-911's ultra-compact size and shape allow for flexible mounting and positioning. Although designed to meet the requirements of high speed processing, the MS-911 offers broad market appeal to many industries.

MS-911

## HIGH SPEED BAR CODE SCANNER

**Ultra-High Speed:** Processes 2,000 scans per second in real time, delivering superior performance in high throughput applications. The MS-911 can transmit at baud rates of up to 115.2k.

**Compact Size:** Small size and shape offers great mounting flexibility and easy integration into existing machinery.

**Real-Time Controls:** Includes three opto-isolated programmable outputs and two opto-isolated inputs. Outputs can react on conditions in a read cycle such as No Read, Match, Mismatch, and Good Read. Inputs can trigger the start of a read cycle or a new master input.

**Preventative Maintenance Features:** Internal diagnostic tools monitor operating conditions and send user-defined messages to alert the operator when thresholds have been exceeded.

Diagnostics monitor:

- laser current
- operating temperature
- operating hours
- power-up counts and resets

**Bar Code Symbolologies:** Reads multiple symbolologies, including standard bar codes as well as OMR (Optical Mark Recognition), patent pending.

**Performance LEDs:** To streamline the setup process, multicolored LEDs, in conjunction with a programmable beeper, provide instant notification of a successful "read." The LEDs also provide a visual read rate test, useful for finding the optimal read distance.



**ESP™ Easy Setup Program:**

Microscan's ESP™ software is a user friendly, windows-based setup program that gives the user a simplified configuration tool. It is compatible with Windows 95, 98, NT, and 2000.

**Support Options:** Instant software upgrades available through a flash memory option. Users can upgrade scanners by downloading software received via e-mail or Microscan's website.

- Installation assistance
- Service agreements
- Training
- On-site support
- Extended warranty



**Invisible Ink Option:** The MS-911 has an option that allows it to detect and read infrared inks which are invisible to the eye.

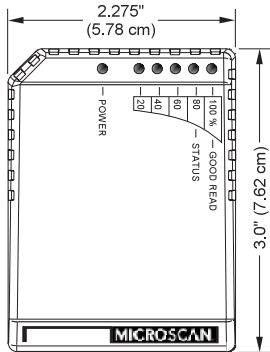
**MICROSCAN®**

# MS-911 HIGH SPEED BAR CODE SCANNER

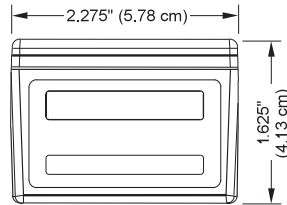
## SPECIFICATIONS AND OPTIONS

### MECHANICAL

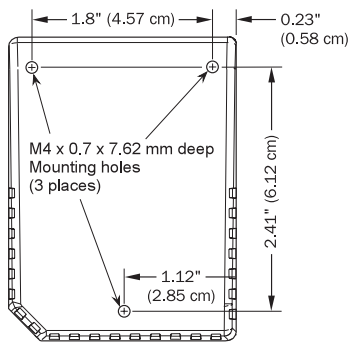
**Depth:** 3.0" (76.2 mm)  
**Width:** 2.275" (57.8 mm)  
**Height:** 1.625" (41.3 mm)  
**Weight:** 11 oz. (311 g)



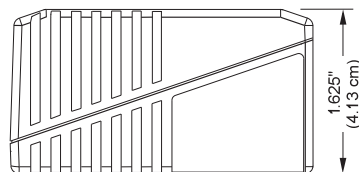
Top View



Front View



Bottom View



Side View

### ENVIRONMENTAL

**Enclosure rating:** IP54  
**Operating temperature:** 0° to 40°C  
**Storage temperature:** -50° to 75°C  
**Humidity:** Up to 90% (non-condensing)

### LASER LIGHT

**Type:** Semiconductor visible laser diode (650 nm nominal)  
**Optional:** Invisible ink  
**Safety class:** CDRH Class II

### READ RANGES

Narrow-bar-width	Read Range
<b>LOW DENSITY</b>	
.0075" (.191 mm)	2" to 5" (5.1 to 12.7 cm)
.010" (.254 mm)	1.5" to 6" (3.8 to 15.2 cm)
.015" (.381 mm)	1" to 7" (2.5 to 17.8 cm)
.020" (.508 mm)	1" to 9" (2.5 to 22.9 cm)
<b>HIGH DENSITY</b>	
.005" (.127 mm)	1.75" to 3" (44 to 7.6 cm)
.0075" (.191 mm)	1.5" to 4" (3.8 to 10.1 cm)

**Scan width:** 4" (10.16 cm) at 3" (7.62 cm) from exit window of scanner with a 10 mil Code 39 label.

Invisible Ink Option	
.010" (.025 cm)	1.5 to 4.0" (3.8 to 10.1 cm)
.015" (.038 cm)	1.5 to 6.0" (3.8 to 15.2 cm)
.020" (.051 cm)	1.5 to 6.0" (3.8 to 15.2 cm)

Ranges based on Code 39 symbols

### COMMUNICATION

**Interface:** RS-232, RS-422/485, Daisy Chain

### SCANNING PARAMETERS

**Type:** Rotating, single line 9-faceted mirror  
**Scan/decode rate:** 2,000 per second  
**Scan width angle:** 56°  
**Pitch angle:** ±50° **Skew angle:** ±40°

### PROTOCOLS

Point-to-Point · Point-to-Point w/RTS/CTS  
 · Point-to-Point w/RTS/CTS & XON/XOFF  
 · Point-to-Point w/XON/XOFF · Polling  
 Mode D · Multidrop · User Defined · User Defined Multidrop

### CONNECTOR

3 ft. cable terminated with a 15-pin D-Sub connector plug

### ELECTRICAL

**Power requirement:** 10–28 VDC, 200 mV p-p max ripple, 185 mA at 24 VDC (typ.)

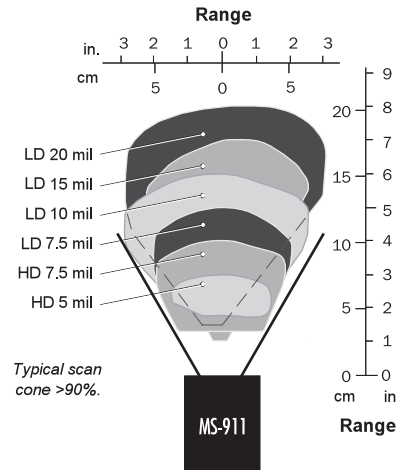
### DISCRETE I/O

**Trigger Input:** Optoisolated, 4.5–28V rated, (12 mA at 24 VDC)  
**New Master Input:** OMR, New Master (-) to signal ground.  
**Outputs (1, 2, 3):** Optoisolated 1–28V rated, 1–28V rated ( $I_{CE} < 100$  mA at 24 VDC, current limited by user)

### PIN ASSIGNMENTS

Pin No.	Host RS232	Host/Aux RS232	Host RS422/485	In/Out
1	Power +10 to 28 VDC			In
2	Host TxD	Host TxD	TxD(-)	Out
3	Host RxD	Host RxD	RxD(-)	In
4	Power/Signal Ground			
5	Trigger (-)			
6	RTS	Aux TxD	TxD(+)	Out
7	Output 1 (+)			
8	Default configuration <sup>a</sup>			
9	Trigger (+)			
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 (+)			
12	New Master/OMR			
13	Chassis ground <sup>b</sup>			
14	Output 2 (+)			
15	Outputs 1,2,3 (-)			

a. The default is activated by connecting pin 8 to ground pin 4.  
 b. Chassis ground: Used to connect chassis body to earth ground only. Not to be used as power or signal return.



### EMISSIONS

**Radiated and Conducted:** EN 55022: 1998, Class A

### CODE TYPES

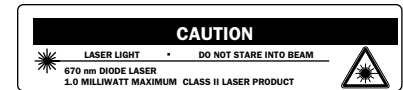
Code 39, Codabar, Code 128, I 2 of 5, Code 93, **Applications Standards:** UPC/EAN  
**Optional:** OMR (Optical Mark Recognition), patent pending, Pharmacode

### INDICATORS

**Beeper:** Good read, Match/Mismatch, Noread, On/Off  
**LEDs:** 1 status, 1 power, 5 read performance (representing percentage of good decodes)

### SAFETY CERTIFICATIONS

CDRH, FCC, UL/cUL, TÜV, CE



ISO 9001/Cert. No. 00-1047

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 Specifications subject to change. Updates to this specification can be found on our Web site.

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.

**Warranty**—One year limited warranty on parts and labor. Extended warranty available.

## MICROSCAN

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