

# MS-9



## High Speed Bar Code Scanner

The MS-9 scanner delivers a decode rate unmatched among small fixed-mount scanners. The superior processing of the MS-9 provides multiple looks at a given label, ensuring data integrity. MS-9 also has an option to read OMR (Optical Mark Recognition).

The MS-9 is the ideal scanner for high speed processing applications.

### MS-9: At a Glance

- Decodes/second: up to 2000
- Read Range: 1 to 9" (25 to 229 mm)
- OMR Reading
- IP54 Enclosure



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

For more information, visit [www.microscan.com](http://www.microscan.com).

#### Ultra-High Scan Speed

The MS-9 processes 2000 scans per second in real time, delivering superior performance in high throughput applications. High decode speed also provides several scans of the symbol which increases data capture accuracy.

#### Compact Size

The small size and compact shape of the MS-9 allows mounting flexibility and easy integration into existing machinery.

#### Preventative Maintenance

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

#### Visible Indicators

Illuminated LEDs on top of the scanner provide visual confirmation of 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

- Document handling
- Pharmaceutical
- Packaging

### MS-9: Available Codes

Linear

All Standard



Stacked

GS1 Databar



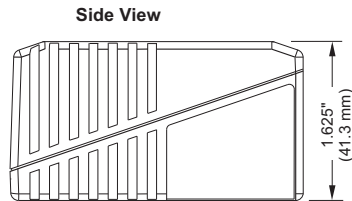
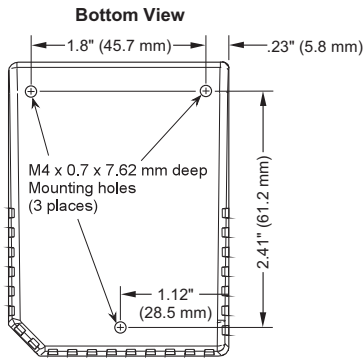
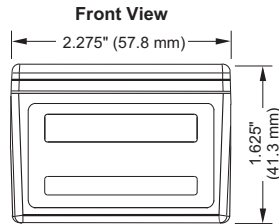
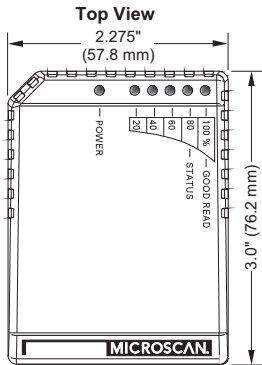
# MICROSCAN®

# MS-9 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)

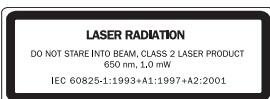


### ENVIRONMENTAL

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

### LASER LIGHT

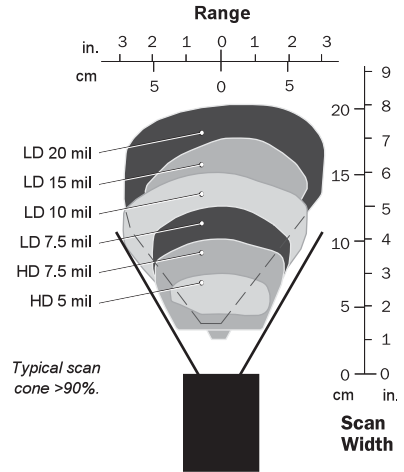
**Type:** Semiconductor visible laser diode (650 nm nominal)  
**Safety Class:** CDRH Class II



### READ RANGES

Narrow-Bar-Width	Read Range
<b>LOW DENSITY</b>	
.0075" (.191 mm)	2" to 5" (51 to 127 mm)
.010" (.254 mm)	1.5" to 6" (38 to 152 mm)
.015" (.381 mm)	1" to 7" (25 to 178 mm)
.020" (.508 mm)	1" to 9" (25 to 229 mm)
<b>HIGH DENSITY</b>	
.005" (.127 mm)	1.75" to 3" (44 to 76 mm)
.0075" (.191 mm)	1.5" to 4" (38 to 101 mm)

Scan width: 4" (101.6 mm) at 3" (76.2 mm) from exit window of scanner with a 10 mil, Code 39 label.



### COMMUNICATION

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

### SCANNING PARAMETERS

**Mirror Type:** Rotating, single line  
 9-faceted mirror  
**Optional Raster:** 9 raster lines over a 2° arc  
**Scan 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 · Daisy Chain

### CONNECTOR

3 ft. (914.4 mm) cable terminated with a high density 15-pin D-Sub plug connector

### ELECTRICAL

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

### DISCRETE I/O

**Inputs:** Optoisolated Trigger and New Master/OMR, 4.5–28 VDC rated, (12 mA at 24 VDC)  
**Outputs (1, 2, 3):** Optoisolated 1–28V rated (I<sub>CE</sub> <100 mA at 24 VDC, current limited by user)

### PIN ASSIGNMENTS

Pin No.	Host RS-232	Host/Aux RS-232	Host RS-422/485	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 (-)			In
6	RTS	Aux TxD	TxD(+)	Out
7	Output 1 (+)			Out
8	Default configuration <sup>a</sup>			In
9	Trigger (+)			In
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 (+)			In
12	New Master/OMR			In
13	Chassis ground <sup>b</sup>			
14	Output 2 (+)			Out
15	Outputs 1,2,3 (-)			Out

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.

### CE MARK

**General Immunity for Light Industry:**  
 EN 55024: 1998 ITE Immunity Standard  
**Radiated and Conducted Emissions of ITE Equipment:** EN 55022:98 ITE Disturbances

### SYMBOLOGIES

Code 39, Codabar, Code 128, I 2 of 5, Code 93, UPC/EAN, GS1 Databar (Linear and Stacked)  
**Optional:** Patented OMR (Optical Mark Recognition) or Pharmacode

### INDICATORS

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

### SAFETY CERTIFICATIONS

CDRH, FCC, UL/cUL, CE

### ROHS/WEEE COMPLIANT

### ISO CERTIFICATION

Certified ISO 9001:2008 Quality Management System

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Read Range and other performance data is determined using high quality Grade A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25°C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. **Warranty**—One year limited warranty on parts and labor. Free extended 3 year warranty upon online product registration.

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