

Capable of decoding 2,000 scans per second in real time, the MS-9 delivers a decode rate unmatched among small fixed mount scanners.

Ideal for high speed applications, the MS-9's superior processing also benefits other applications by providing multiple looks at a given label, which ensures data integrity. This versatile scanner reads all standard bar codes including RSS. The MS-9 also has options that can read invisible ink or OMR (Optical Mark Recognition). Easily integrated into existing machinery, the MS-9's ultra-compact size and shape allow for flexible mounting and positioning. Although designed to meet the requirements of high speed processing, the MS-9 offers broad market appeal to many industries.

MS-9

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-9 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 optoisolated programmable outputs and two optoisolated 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 Symbolgies: Reads multiple symbologies, including standard bar codes as well as patented OMR (Optical Mark Recognition) and RSS (Linear and Stacked).

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 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 98, NT, 2000, and XP.

Support Options: Instant software upgrades are available through a flash memory option. Users can upgrade scanners by downloading software on Microscan's website.

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



Invisible Ink Option: The MS-9 has an option that allows it to detect and read infrared inks which are invisible to the eye.

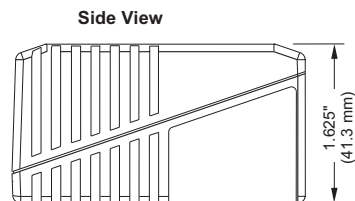
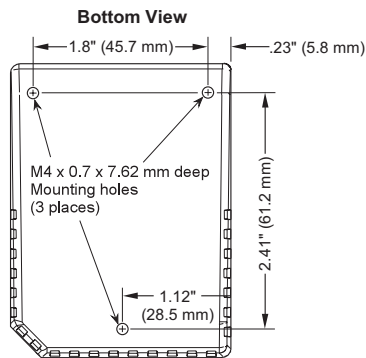
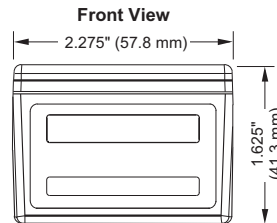
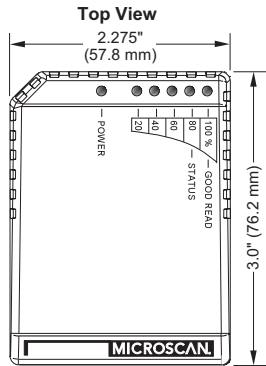
MICROSCAN®

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)

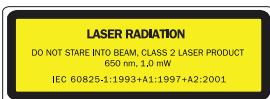


ENVIRONMENTAL

Enclosure rating: IP54
Operating temperature: 0° 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
LOW DENSITY	
.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)
HIGH DENSITY	
.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.

Invisible Ink Option	
.010" (.25 mm)	1.5 to 4.0" (38 to 101 mm)
.015" (.38 mm)	1.5 to 6.0" (38 to 152 mm)
.020" (.51 mm)	1.5 to 6.0" (38 to 152 mm)

Ranges based on Code 39 symbols

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/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 · 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.)

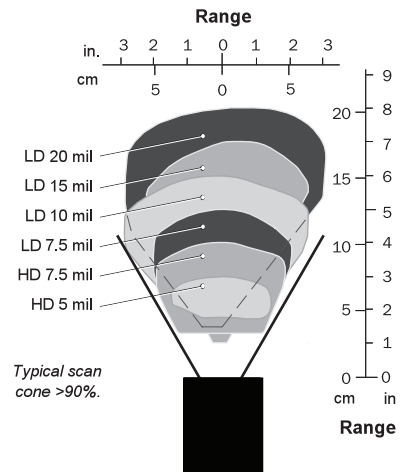
DISCRETE I/O

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_{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 ^a			
9	Trigger (+)			
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 (+)			
12	New Master/OMR			
13	Chassis ground ^b			
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.



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, RSS (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

ISO CERTIFICATION

Issued by RWTüV, USA Inc.
 ISO 9001:2000 – Cert No. 03–1212

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

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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