M S − 9

High-Speed Barcode Scanner

Performance LEDs

High Scan Speed

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).

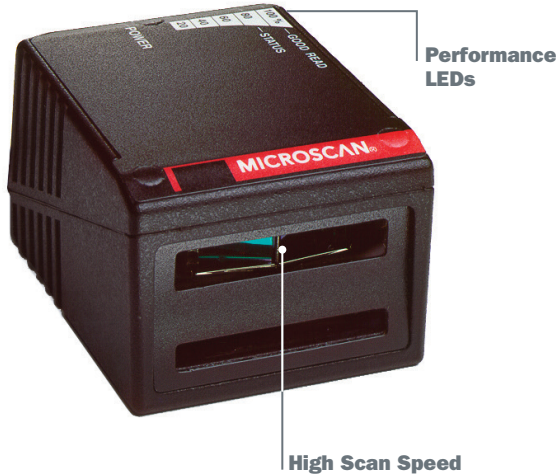*The MS-9 is the ideal scanner for high speed processing applications.*

MS−9: At a Glance

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

ESP

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

For more information on this product, visit www.microscan.com.

Ultra-High Scan Speed
The MS-9 processes 2000 scans per second in real time, delivering superior performance in high through-put 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
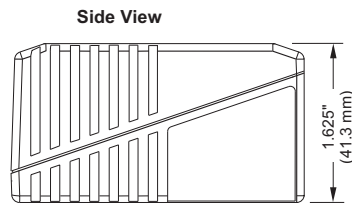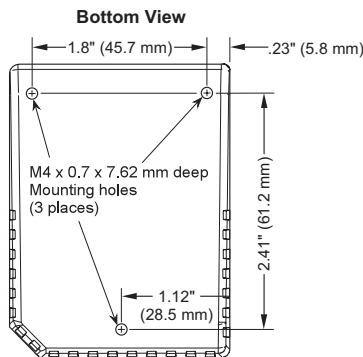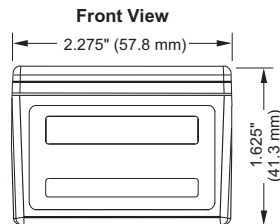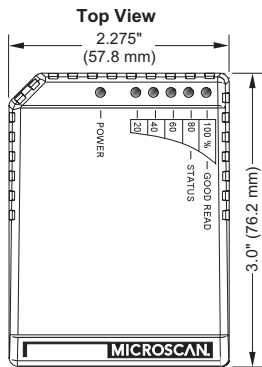
Linear — All Standard

Stacked — GS1 Databar

MICROSCAN®

MS-9 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

M4 x 0.7 x 7.62 mm deep
Mounting holes
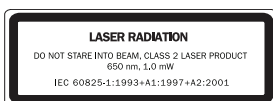(3 places)

Side View

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

LASER RADIATION
DO NOT STARE INTO BEAM, CLASS 2 LASER PRODUCT
650 nm, 1.0 mW
IEC 60825-1:1993+A1:1997+A2:2001

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.

Range

LD 20 mil
LD 15 mil
LD 10 mil
LD 7.5 mil
HD 7.5 mil
HD 5 mil

Typical scan cone >90%.
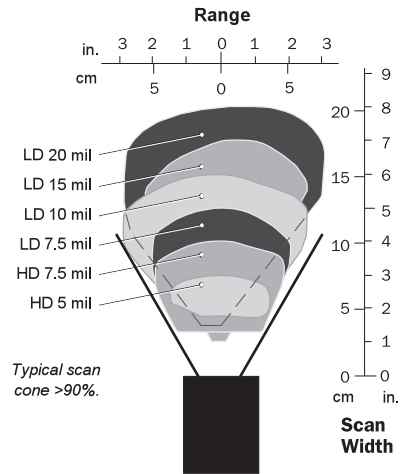
Scan Width

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 Multi-
drop · 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 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	Ouput 1 (+)			Out
8	Default configuration[a]			In
9	Trigger (+)			In
10	CTS	Aux RxD	RxD (+)	In
11	Output 3 (+)			In
12	New Master/OMR			In
13	Chassis ground[b]			
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 Recogni-
tion) 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)

QMS CERTIFICATION
www.microscan.com/quality

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