

**The MS-3 Laser combines top performing software features and high scan speed packed into Microscan's smallest scanner.**

At 1,000 decodes per second, the **MS-3 Laser** offers the fastest read performance in the class of embedded compact bar code scanners. The wide scan angle of 70 degrees coupled with ultra-compact size and flexible mounting make the **MS-3 Laser** the optimal choice for high-speed reading in OEM instruments.

High performance and flexibility are designed into virtually every aspect of the **MS-3 Laser**. Optics are factory-adjustable and our feature-rich firmware can be customized to satisfy almost any application.

The **MS-3 Laser** scanner is the performance leader in Microscan's **MS-3** trio that also includes the **MS-3 CCD** and the **MS-3 Engine**. All three are well suited for any embedded bar code application where size, performance, and budget savings are core factors.

## MS-3 LASER

## ULTRA-COMPACT BAR CODE SCANNER

### Compact Size

The 1.75" (44.5 mm) square by .85" (21.6 mm) tall scanner weighs only 2 ounces (57 g) for easy mounting onto robotic equipment or into tight spaces.

### High Scan Speed

Adjustable scan speed from 300 up to 1,000 decodes per second and Microscan's robust decode algorithms ensure accurate reading every time.

### Real-Time Controls

Includes three programmable relay outputs, new master, and trigger.

### Test Button and Performance LEDs

Instantly check your read rate at the push of a button, with no PC or output device required. Illuminated LEDs on top of the scanner provide visual confirmation of the scanner performance.

### Low Power Draw

The MS-3 comes standard as 5V for low power draw (260 mA, typical). 10-30V input also available with interface accessory.



### 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, 2000, and XP .



### Symbologies

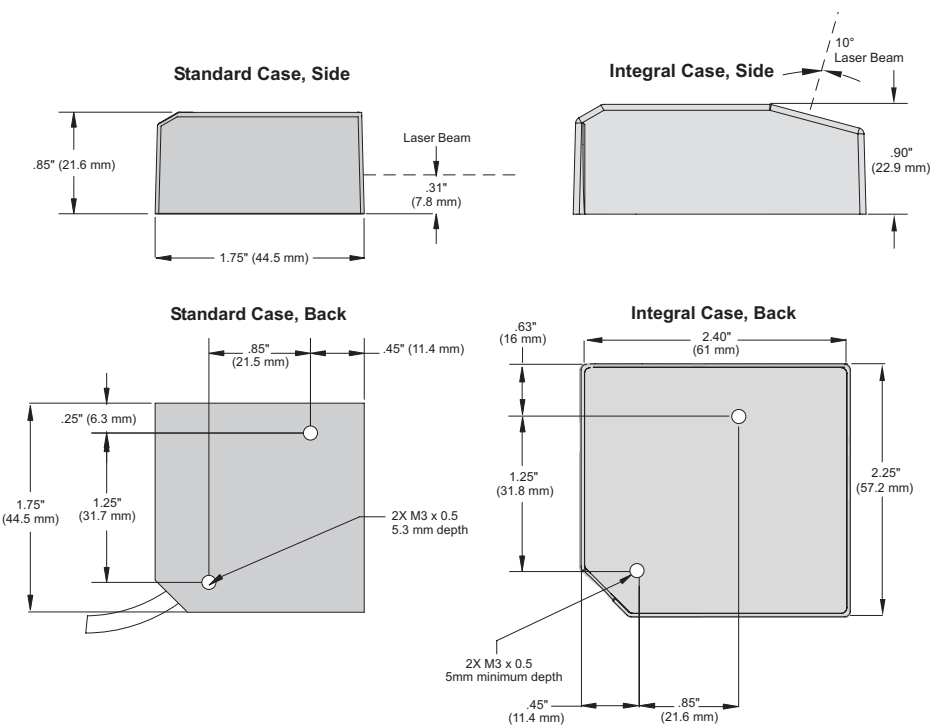
Like all Microscan scanners, the MS-3 reads virtually all widely used bar code symbologies, including:

- Code 93
- Code 39
- Code 128
- Codabar
- Pharmacode
- Interleaved 2 of 5
- UPC/EAN
- PDF417 (option)

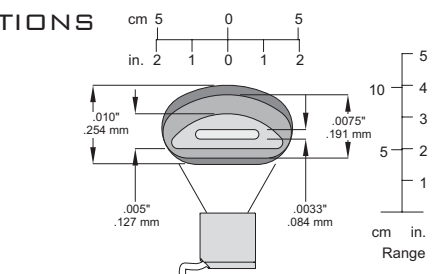
### Wide Scan Angle/Adjustable Optics

The wide scan angle of over 70 degrees and a factory customizable focal point add up to space savings within your system, allowing greater flexibility with positioning.

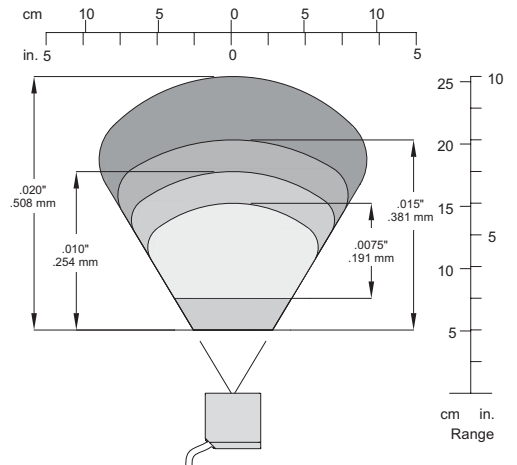
# MS-3 LASER SCANNER SPECIFICATIONS AND OPTIONS



## HIGH DENSITY SCAN AREA



## LOW DENSITY SCAN AREA



## MECHANICAL

**Weight (Standard):** 2 oz. (57 g)  
**Weight (Right Angle):** 2.8 oz. (87 g)

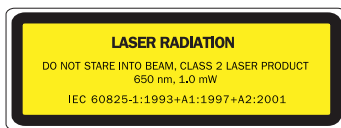
## ENVIRONMENTAL

**Housing:** IP54  
**Operating temperature:** 0° to 50°C (32° to 122°F)  
**Storage temperature:** -50° to 75°C (-58° to 167°F)  
**Humidity:** Up to 90% (non-condensing)  
**Operating life:** 40,000 hours at 25° C

## 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

## LASER LIGHT



**Type:** Semiconductor visible laser diode (650 nm nominal)  
**Safety Class:** CDRH Class II, 1.0 mW max.

## COMMUNICATION

**Interface:** RS-232, RS-422/485 (up to 115.2k), Keyboard Wedge, USB

## PROTOCOLS

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

## SCANNING PARAMETERS

**Options:** single line, fixed raster  
**Scan rate:** Adjustable from 300 to 1000 scans/second, default=500  
**Scan width angle:** >70°  
**Pitch:** ±50°  
**Skew:** ±40°  
**Label contrast:** 25% min. @ 650 nm

## HOST CONNECTOR/PIN ASSIGNMENTS

### High Density 15 Pin D-sub Socket Connector

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

a. Can sink 10 mA and source 2 mA.  
 b. The default is activated by connecting pin 8 to ground pin 4.  
 c. Chassis ground: Used to connect chassis body to earth ground only. Not to be used as power or signal return.

## CONNECTOR

**Type:** 3 ft. cable terminated with High Density 15-pin D-Sub socket connector

## ELECTRICAL

**Power:** 5 VDC +/- 5 %, 200 mV p-p max. ripple, 260 mA @ 5 VDC (typ.)

## DISCRETE I/O

**Trigger Input:** 3 to 24V rated (1 mA @ 5 VDC)  
**New Master:** 3 to 24V rated (1 mA @ 5 VDC)  
**Outputs (1, 2, 3):** 5V TTL compatible, can sink 10 mA and source 2mA

## SYMBOLOGIES

Code 39, Codabar, Code 128, I 2 of 5, Code 93, UPC/EAN, Pharmacode, PDF417 (option)

## INDICATORS

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

## READ RANGES

Narrow-bar-width	Read Range
<b>HIGH DENSITY</b>	
.0033" (.084 mm)	2.3" to 2.6" (58 to 66 mm)
.005" (.127 mm)	2" to 3.1" (51 to 79 mm)
.0075" (.191 mm)	1.7" to 3.7" (43 to 94 mm)
.010" (.254 mm)	1.5" to 4" (38 to 102 mm)
<b>LOW DENSITY</b>	
.0075" (.191 mm)	3" to 6" (76 to 152 mm)
.010" (.254 mm)	2" to 7" (51 to 178 mm)
.015" (.381 mm)	2" to 8" (51 to 203 mm)
.020" (.508 mm)	2" to 10" (51 to 254 mm)

Note: For Right Angle option, subtract 0.6" (15 mm) from read range. Read ranges are base upon optimal scan speed for specific symbol density.

## SAFETY CERTIFICATIONS DESIGNED FOR CDRH, FCC, UL/cUL, CE, BSMI



ISO 9001:2000  
**CERTIFIED QMS**

## ISO CERTIFICATION

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

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 All rights reserved. Specifications subject to change.  
 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.

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