

Engineered specifically for accuracy and dependability, the MS-610 fixed-mount scanner delivers high performance and versatility. Its depth of field and scan width capabilities are exceptional for a full range of bar code densities, providing a safety margin in positioning bar coded items in automated scanning systems. With a 200 scan-per-second scanning rate, the MS-610 is ideal for systems that require fast, host-compatible bar code data acquisition with a very high confidence factor.

# MS-610

## BAR CODE SCANNER

**Relentless reading at high speed:** A precision motor coupled with a ten-sided, spinning, high-efficiency mirror assures reliable, redundant scanning of quickly moving labels. The mirror reflects a laser beam through a 60-degree arc 200 times per second along a single line (standard) or 2-degree raster.

**Automatic Gain Control:** A super-fast, quick-response automatic gain control (AGC) optimizes bar code reading by adjusting the photodetector's sensitivity to compensate for changes in contrast due to variations in labels or ambient light.

**Flexible positioning of bar coded items:** Thanks to a 60-degree scan angle, large depth of field, and factory-adjustable focal range, the scanner can be positioned most anywhere, along conveyor lines or as a component within existing equipment.

**Real-time decoding:** The MS-610's microprocessor decodes virtually instantaneously with Microscan's patented dual processing techniques.

**Simple firmware configuration:** Built-in firmware makes the MS-610 easy to configure from a host or ASCII terminal. Using menus or command strings, choose the communications, operations, bar code symbology, and user outputs from a wide selection of standard options.

**Easy to read status lights:** Two LEDs in the back of the unit show status. Green indicates power on; red confirms a successful read.

**Service Options:**

- Installation assistance program
- Service agreements
- Training
- On-site service
- Extended warranty

Like all Microscan scanners, the MS-610 scans virtually all widely used bar code symbologies, including:

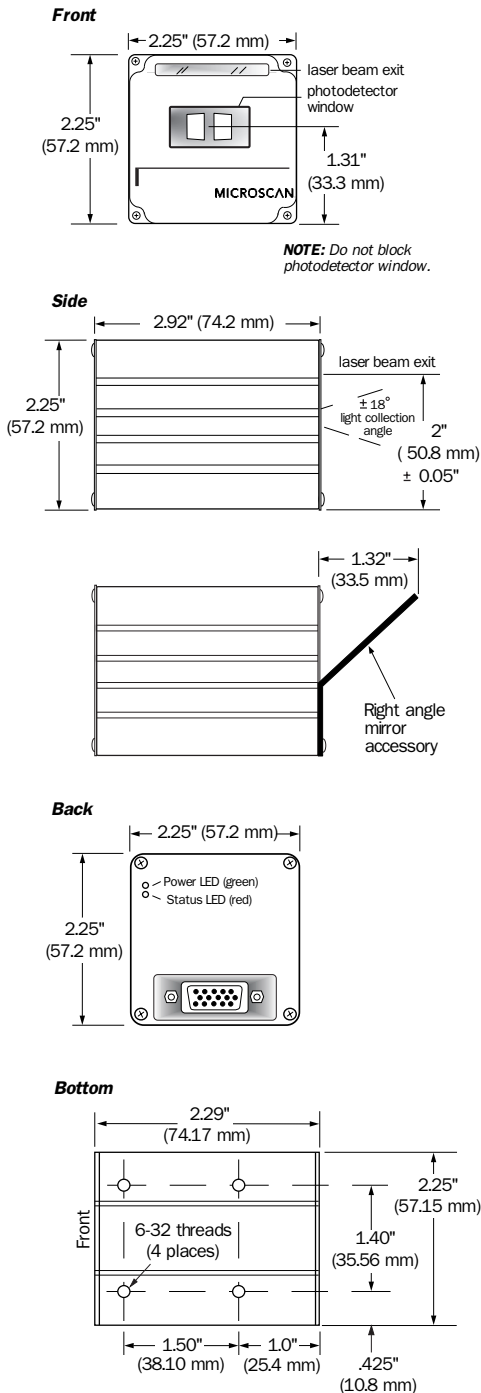
- Code 39
- Codabar
- Interleaved 2 of 5
- UPC/EAN
- Code 128
- Code 49
- Other codes are available, call Microscan for details.



# MS-610 SCANNER

## Specifications and Options

### MECHANICAL



**NOTE:** Do not block photodetector window.

### READ RANGES AND SCAN WIDTHS<sup>1</sup>

Narrow-bar-width	Read Range	Maximum Scan Width
<b>VISIBLE—ULTRA HIGH DENSITY</b>		
.0047" (.119 mm)	1.75" to 3" (4.5 to 7.6 cm)	3" (7.6 cm)
.0075" (.191 mm)	1" to 4" (2.5 to 10.2 cm)	4" (10.2 cm)
<b>VISIBLE—STANDARD DENSITY</b>		
.0075" (.191 mm)	2" to 5" (5.1 to 12.7 cm)	4.75" (12.1 cm)
.010" (.254 mm)	1.5" to 6" (3.8 to 15.2 cm)	6" (15.2 cm)
.015" (.381 mm)	1" to 7" (2.5 to 17.8 cm)	7.5" (19.1 cm)
.020" (.508 mm)	1" to 9" (2.5 to 22.9 cm)	9.25" (23.5 cm)
.030" (.762 mm)	4" to 10" (10.2 to 25.4 cm)	9.5" (24.1 cm)
.040" (1.02 mm)	4" to 10" (10.2 to 25.4 cm)	9.5" (24.1 cm)
.050" (1.27 mm)	5" to 10" (12.7 to 25.4 cm)	9.75" (24.8 cm)
<b>INFRARED—ULTRA HIGH DENSITY</b>		
.0047" (.119 mm)	1.75" to 3" (4.5 to 7.6 cm)	3" (7.6 cm)
.0075" (.191 mm)	1.25" to 3" (3.2 to 7.6 cm)	3.5" (8.9 cm)
<b>INFRARED—STANDARD DENSITY</b>		
.0075" (.191 mm)	2" to 4.5" (5.1 to 11.4 cm)	3.5" (8.9 cm)
.010" (.254 mm)	1.5" to 5" (3.8 to 12.7 cm)	4.75" (12.1 cm)
.015" (.381 mm)	1" to 6" (2.5 to 15.2 cm)	6" (15.2 cm)
.020" (.508 mm)	1" to 7" (2.5 to 17.8 cm)	7" (17.8 cm)
.030" (.762 mm)	4" to 9" (10.2 to 22.9 cm)	8.5" (21.6 cm)
.040" (1.02 mm)	4" to 9" (10.2 to 22.9 cm)	8.5" (21.6 cm)
.050" (1.27 mm)	5" to 9" (12.7 to 22.9 cm)	8.5" (21.6 cm)

<sup>1</sup>: At 200 decodes per second using Code 39 grade A label.

### SCANNING PARAMETERS

**Mirror type:** Rotating 10-faceted  
**Optional raster mirror image:** 10 raster scan lines over a 2-degree arc (or 0.24-inch raster over a 6-inch distance)  
**Scan rate:** 200 scans per second  
**Scan width angle:** 60°  
**Pitch:** ±50°  
**Skew:** ±40°  
**Label contrast:** 25% min. absolute dark to light differential at 670 nm wavelength

### 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

### ELECTRICAL

**Power requirement:**  
 +12 VDC regulated @ 80 mA with 20 mV p-p max. ripple  
 -12 VDC regulated @ 80 mA with 20 mV p-p max. ripple  
 +5 VDC regulated @ 400 mA with 200 mV p-p max. ripple

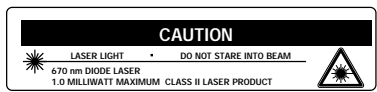
### PIN ASSIGNMENTS

Pin No.	Function
1	+5 VDC (in)
2	Transmit data (RS-232) (out)
3	Receive data (RS-232) (in)
4	Signal ground
5	CTS <sup>a</sup> , RS-422/485 (-transmit), or New Master Pin
6	RTS <sup>a</sup> (out) or RS-422/485 (+transmit)
7	Relay driver (5V, 20 mA capability) (out)
8	Default (in)
9	Trigger (3 to 24 VDC) (in)
10	Signal ground
11	+12 VDC (in)
12	RS-422/485 (+receive)
13	Chassis ground
14	RS-422/485 (-receive)
15	-12 VDC (in)

<sup>a</sup> Used with RS-232

### SAFETY CERTIFICATIONS

CDRH, FCC, UL/cUL, TÜV, CE, CISPR



ISO 9001/Cert. No. US96/0465

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 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.

### ENVIRONMENTAL

**Weight:** 9 oz. (257 g)  
**Operating temperature:** 32° to 104°F (0° to 40°C)  
**Humidity:** Up to 95% (non-condensing)  
**Ambient light immunity:**  
 • 450 foot candles (indoor, fluorescent, in candescent, mercury vapor, sodium vapor)  
 • 2000 foot candles (soft indoor)

### LASER LIGHT

**Type:** Semiconductor visible laser diode (670 nm nominal), infrared Class I version available  
**Safety Class:** CDRH Class II

### COMMUNICATION

**Interface:** RS-232, RS-422, RS-485 (option)

# MICROSCAN<sup>®</sup>

REALIZING YOUR VISION<sup>™</sup>

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