

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.

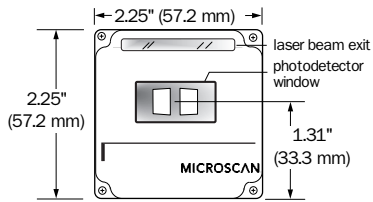


# MS-610 SCANNER

## Specifications and Options

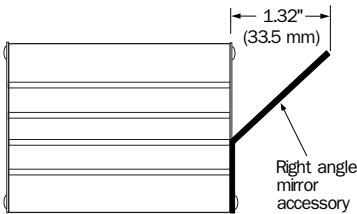
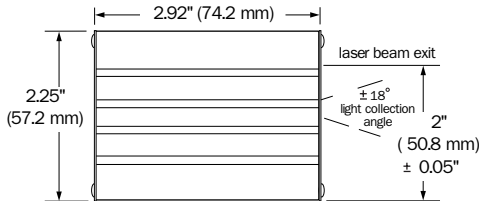
### MECHANICAL

#### Front

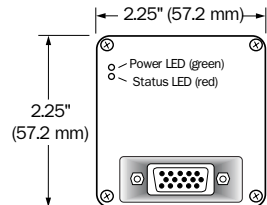


**NOTE:** Do not block photodetector window.

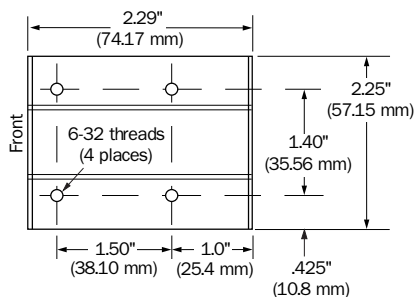
#### Side



#### Back



#### Bottom



### 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)

### 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

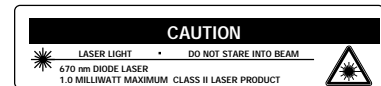
### PIN ASSIGNMENTS

| 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.

## MICROSCAN<sup>®</sup>

REALIZING YOUR VISION<sup>™</sup>

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