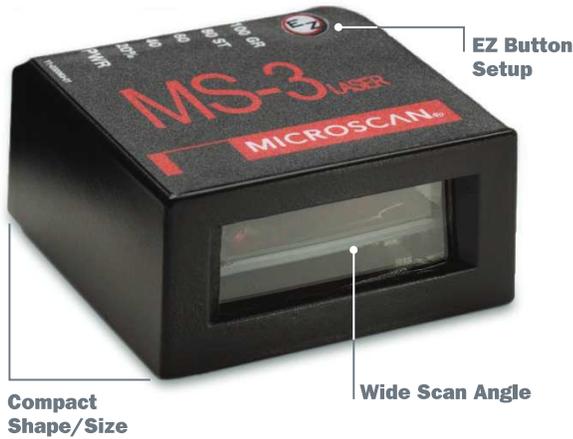


# MS-3



## Ultra-Compact Barcode Scanner

The MS-3 laser barcode scanner offers the fastest read performance in embedded compact barcode scanners. The wide scan angle of 70 degrees is coupled with ultra-compact size and flexible mounting.

High-performance and flexibility make the MS-3 the optimal choice for reliable reading in embedded instruments.



### MS-3: At a Glance

- Decodes/second: up to 1000
- Read Range: 2 to 10" (51 to 254 mm)
- Wide Scan Angle
- IP54 Enclosure



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



EZ Button: This performs reader setup and configuration with no computer required.

#### Compact & Lightweight

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.

#### Visible Indicators

Illuminated LEDs on top of the scanner provide visual confirmation of the scanner performance.

#### High Scan Speed

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

#### 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.

#### Wide Scan Angle

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.

#### Application Examples

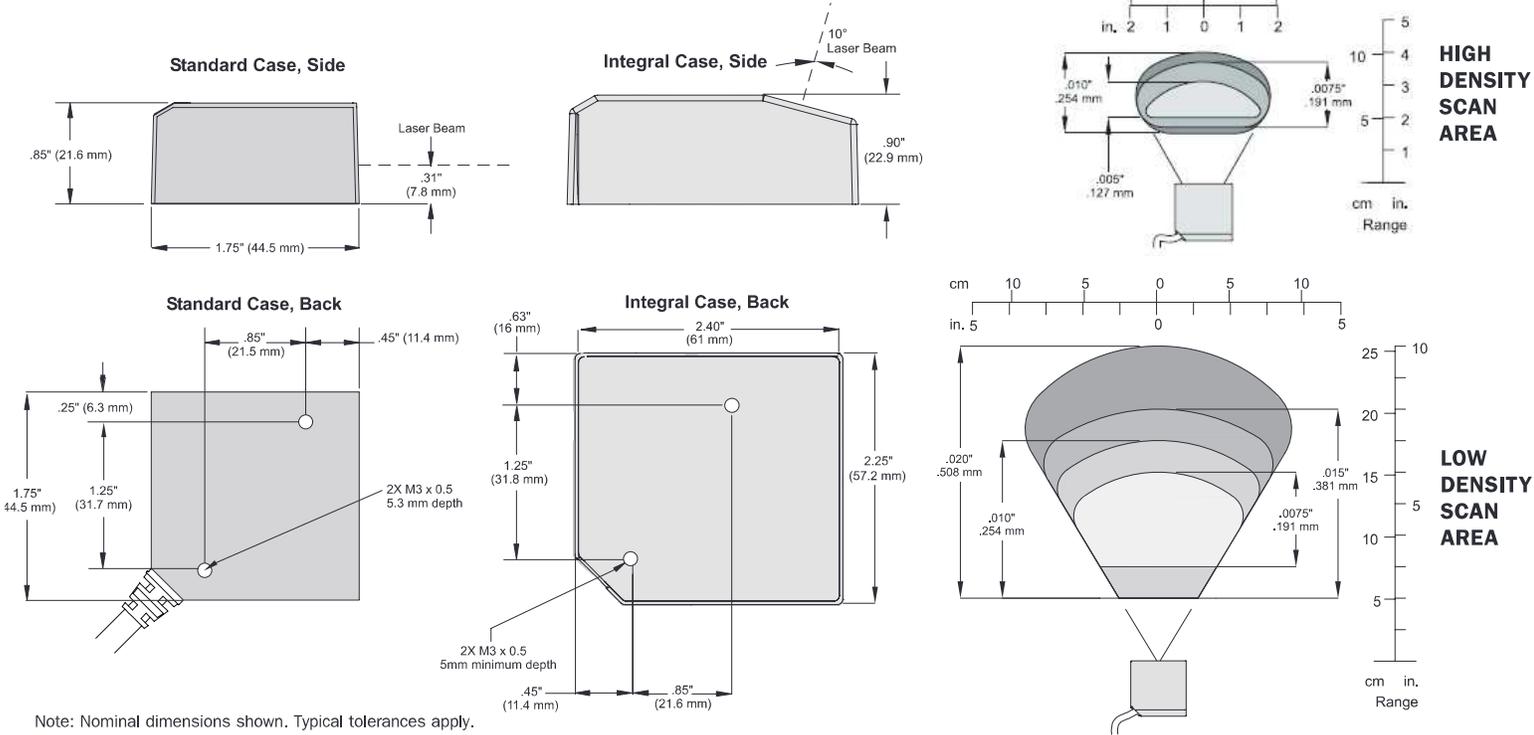
- Clinical instruments
- Bank ATMs
- Parking kiosks
- Point-of-sale terminals
- Robotics

For more information on this product, visit [www.microscan.com](http://www.microscan.com).

### MS-3: Available Codes



# MS-3 BARCODE SCANNER SPECIFICATIONS AND OPTIONS



Note: Nominal dimensions shown. Typical tolerances apply.

## MECHANICAL

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

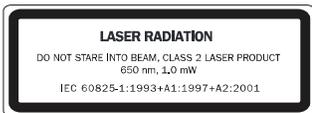
## ENVIRONMENTAL

**Housing:** IP54 (category 2)  
**Operating Temperature:** 0° to 50° C (32° to 122°F)  
**Storage Temperature:** -40° to 75° C (-40° to 167°F)  
**Humidity:** Up to 90% (non-condensing)  
**Operating Life:** 40,000 hours at 25° C

## CE MARK

EN 55022:2010/AC:2011 Class B Radiated Emissions  
 EN 55022:2010/AC:2011 Class B Conducted Emissions  
 EN 55032:2012 Class B Radiated Emissions  
 EN 55032:2012 Class B Conducted Emissions

## 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  
**Optional Raster:** 7 raster lines over 1.5° arc (or 0.30" raster height at 4.5" [114 mm] distance)  
**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, Interleaved 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)    | Call Omron Microscan.      |
| .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 based upon optimal scan speed for specific symbol density.

## QMS CERTIFICATION

[www.microscan.com/quality](http://www.microscan.com/quality)

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 Read Range and other performance data is determined using high-quality Grade-A symbols per ISO/IEC 15415 and ISO/IEC 15416 in a 25° C environment. For application-specific Read Range results, testing should be performed with symbols used in the actual application. Omron Microscan Applications Engineering is available to assist with evaluations. Results may vary depending on symbol quality. Warranty—For current warranty information on this product, please visit [www.microscan.com/warranty](http://www.microscan.com/warranty).

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