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.

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.

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.

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.

Visible Indicators
Illuminated LEDs on top of the scanner provide visual confirmation of the 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
- Clinical instruments
- Bank ATMs
- Parking kiosks
- Point-of-sale terminals
- Robotics

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.

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

MS-3: Available Codes

Linear All Standard

Stacked PDF417
**MS-3 Barcode Scanner Specifications and Options**

### 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 177° 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 55032:2012 Class B Conducted Emissions**
- **EN 55032:2012 Class B Radiated Emissions**
- **EN 55022:2010/AC:2011 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:** w/RTS/CTS, w/XON/XOFF, Polling Mode D
- **Multidrop:** User Defined, User Defined
- **Discrete I/O:** Trigger Input: 3 to 24V rated
- **New Master:** 3 to 24V rated
- **Outputs (1, 2, 3):** 5V TTL compatible, can sink 10 mA and source 2 mA

### Symbolologies
- **Code:** 39, Codabar, Code 128, Interleaved 2 of 5, Code 93, UPC/EAN, Pharmacode, PDF417

### Host Connector/Pin Assignments

<table>
<thead>
<tr>
<th>Pin</th>
<th>Host</th>
<th>Host/Aux</th>
<th>Host</th>
<th>In/Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power +5 VDC</td>
<td>In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TxD</td>
<td>TxD</td>
<td>TxD+</td>
<td>Out</td>
</tr>
<tr>
<td>3</td>
<td>RxD</td>
<td>RxD</td>
<td>RxD-</td>
<td>In</td>
</tr>
<tr>
<td>4</td>
<td>Power/Signal Ground</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>RTS</td>
<td>Aux TxD</td>
<td>TxD+</td>
<td>Out</td>
</tr>
<tr>
<td>7</td>
<td>Output 1 TTLa</td>
<td>Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Default configurationb</td>
<td>In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Trigger</td>
<td>In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>CTS</td>
<td>Aux RxD</td>
<td>RxD+</td>
<td>In</td>
</tr>
<tr>
<td>11</td>
<td>Output 3 TTLc</td>
<td>Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>New Master (NPN)</td>
<td>In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Chassis ground</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Output 2 TTL</td>
<td>Out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Read Ranges

<table>
<thead>
<tr>
<th>Narrow-bar Width</th>
<th>Read Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH DENSITY</td>
<td></td>
</tr>
<tr>
<td>.0033&quot; (.084 mm)</td>
<td>Call Omron Microscan,</td>
</tr>
<tr>
<td>.0059&quot; (.127 mm)</td>
<td>2&quot; to 3.1&quot; (51 to 79 mm)</td>
</tr>
<tr>
<td>.0075&quot; (.191 mm)</td>
<td>1.7&quot; to 3.7&quot; (43 to 94 mm)</td>
</tr>
<tr>
<td>.0100&quot; (.254 mm)</td>
<td>1.5&quot; to 4.0&quot; (38 to 102 mm)</td>
</tr>
<tr>
<td>LOW DENSITY</td>
<td></td>
</tr>
<tr>
<td>.0075&quot; (.191 mm)</td>
<td>3&quot; to 6&quot; (76 to 152 mm)</td>
</tr>
<tr>
<td>.0100&quot; (.254 mm)</td>
<td>2&quot; to 7&quot; (51 to 178 mm)</td>
</tr>
<tr>
<td>.0150&quot; (.381 mm)</td>
<td>2&quot; to 8&quot; (51 to 203 mm)</td>
</tr>
<tr>
<td>.0200&quot; (.508 mm)</td>
<td>2&quot; to 10&quot; (51 to 254 mm)</td>
</tr>
</tbody>
</table>

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.

### Connector
- **Type:** 3 ft. cable terminated with High Density 15-pin D-Sub connector
- **Power:** 5 VDC ±/– 5%, 200 mV p-p max. ripple, 260 mA @ 5 VDC (typ.)

### QMS Certification
- www.microscan.com/quality

©2018 Omron Microscan Systems, Inc. SP017J-EN0518
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 testing, 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.