Versatility and high performance have been built into every feature of the MS-880, providing the flexibility to solve a multitude of bar code scanning applications, under a variety of factory conditions.

A heavy duty scanner designed for industrial automation, the MS-880 offers robust features including; wireless programming, autofocus, windows based software, linear and 2-D code reading, and multiple protocol options.

The MS-880 is the ideal scanner for any facility looking to simplify equipment purchase by selecting one scanner model for use throughout the factory floor in a variety of applications. As bar code requirements change, adjustments can quickly be made to the scanner to fit the needs of the application.

**INDUSTRIAL AUTOMATION SCANNER**

**Long Read Range:** The MS-880 optics were designed for successful reading at extended or varying distances, such as a safety or clearance zone required around conveyor or assembly areas.

The MS-880 reads out to 90 inches (228.6 cm) on a 20 mil label.

**Autofocus:** This setting is part of the autocalibration feature which automatically determines and selects optimal read settings for:
- Focus
- Gain
- Tracking

**Programmable Raster:** The scan area can be optimized for applications that may require:
- Reading multiple symbols
- Inconsistently placed labels
- Reading PDF417 code

**Optional Wiring Box, IB-880:** Flexible and easy integration are attained without special cables or connectors. See the IB-880 specification sheet for complete details.

- Pluggable relay modules
- Terminal strip connectivity
- Connectivity with hand-held scanners
- Multiple protocol communications

**Integrated Industrial Protocols:**
- DeviceNet
- Profinet
- DataHighway Plus

**Multiple Programming Methods:** The MS-880 can be programmed while still on the line via a separate programming port, or the wireless IrDA port. Four programming methods:
- ESP™ MP software (compatible with Windows 95, 98, 2000 and NT)
- Embedded menus
- Serial commands
- Bar code programming

**Wireless Communications:** The IrDA port allows programming via palm computers and laptops.

**Bar Code Symbologies:** The MS-880 reads PDF417 and AIAG formats, as well as all standard linear symbologies which include:
- Code 39
- UPC/EAN
- UCC/EAN-128
- Code 93
- Code 128
- Interleaved 2 of 5
- Codabar
- Pharma Code

Other codes are available; call Microscan for more details.

**Visible Read Indicators:** Visible LEDs on the MS-880 show if the labels are being successfully read, allowing line workers to check the scanner’s performance instantly.
MS-880 INDUSTRIAL AUTOMATION SCANNER

Specifications and Options

MECHANICAL
Length: 3.5" (8.8 cm)
Width: 5" (12.7 cm)
Height: 6" (15.2 cm)
Weight: 4 lbs. (1.8 kg)

COMMUNICATION
Interface:
RS-232, RS-422/485, IrDA port,
Daisychain/auxiliary port capable.
Interface with IB-880 Wiring Box
(optional):
DeviceNet, Profibus, Ethernet or Data Highway Plus

CODE TYPES
Standard codes:
Code 39, Code 128, UPC/EAN,
Interleaved 2 of 5, Codabar, Code 93, PDF417,
Pharma Code.
Applications Standard:
AIAG, UCC/EAN-128

ELECTRICAL
Power Requirement:
Input, 10-28 VDC,
200 mV p-p max. ripple, 6.0 watts rated (typ.)

CE Mark
EN55022:
1998 Limits & Methods: ITE
Disturbances
EN55024:
1998 (General Immunity: Residential)
EN61000-6-2:
1999 (Heavy Industrial: Immunity)

INDICATORS
Beeper:
Good read, match/mismatch, noread,
serial command confirmation
LEDs:
1 status, 1 power, 5 read performance
(representing percentage of good decodes)

DISCRETE I/O
Inputs (trigger, newmaster, input1)
Opto-isolated, 5–28V rated,
Outputs (1, 2, 3):
Opto-isolated, 10–28V rated,
(I_{cc} <100 mA @ 24 VDC, current limited by user)

SAFETY CERTIFICATIONS
Designed for FCC, CDRH, CE,
UL/cUL, TüV, BSMI
ISO 9001/Cert. No. 00-1047
©2001 Microscan Systems, Inc. 03/01
Specifications subject to change.
Updates to this specification can be found
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.

ENVIRONMENTAL
Enclosure: IP65
Operating temperature: 0° to 50°C
(32° to 122°F)
Storage temperature: -50° to 75°C
(-63° to 167°F)
Humidity: Up to 90% (non-condensing)

LASER LIGHT
Type: Semiconductor visible laser diode
(650 nm nominal)
Operating life: 40,000 hours @ 25°C (77° F)
Safety class: CDRH Class II

SCANNING PARAMETERS
Scanner mirror type: Rotating, single line,
14-faceted mirror
Scan rate: Adjustable from 400 to 1000
scans/second (default = 400 sps)
Raster Sweep Speed: 1 to 10 sweeps per second
Raster Sweep Angle: 30° maximum
Pitch Angle: ±50° maximum
Skew Angle: ±40° maximum
Label contrast: 25% min. absolute dark to light
differential at 650 nm wavelength

READ RANGES

<table>
<thead>
<tr>
<th>Label Size (nm)</th>
<th>Scanning Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5 mil (1.905 mm)</td>
<td>10” to 35” (25.4 to 88.9 cm)</td>
</tr>
<tr>
<td>15 mil (0.381 mm)</td>
<td>10” to 74” (25.4 to 188 cm)</td>
</tr>
<tr>
<td>30 mil (0.762 mm)</td>
<td>10” to 100” (25.4 to 254 cm)</td>
</tr>
<tr>
<td>40 mil (1.016 mm)</td>
<td>10” to 110” (25.4 to 279.4 cm)</td>
</tr>
<tr>
<td>50 mil (1.27 mm)</td>
<td>10” to 120” (25.4 to 304.8 cm)</td>
</tr>
</tbody>
</table>

CONNECTORS/PIN ASSIGNMENTS

Program Connector: 9-pin D-subminiature plug

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>RX232</td>
</tr>
<tr>
<td>3</td>
<td>TX232</td>
</tr>
<tr>
<td>5</td>
<td>Signal ground</td>
</tr>
<tr>
<td>9</td>
<td>Boot mode</td>
</tr>
</tbody>
</table>

Power Connector: 3-pin MicroChange

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power ground</td>
</tr>
<tr>
<td>2</td>
<td>N/P</td>
</tr>
<tr>
<td>3</td>
<td>Power 10 to 28 VDC (in)</td>
</tr>
</tbody>
</table>

Trigger Connector: 4-pin MicroChange

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power 10 to 28 VDC (out)</td>
</tr>
<tr>
<td>2</td>
<td>N/P</td>
</tr>
<tr>
<td>3</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>N/C</td>
</tr>
</tbody>
</table>

Host Connector: 25-pin D-subminiature plug

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chassis Ground</td>
</tr>
<tr>
<td>2</td>
<td>Transmit data (RS-232) (out)</td>
</tr>
<tr>
<td>3</td>
<td>Receive data (RS-232) (in)</td>
</tr>
<tr>
<td>4</td>
<td>Request-to-send (out)/Aux TXD RS-232</td>
</tr>
<tr>
<td>5</td>
<td>Clear-to-send (in)/Aux RXD RS-232</td>
</tr>
<tr>
<td>6</td>
<td>Output 1 + (out)</td>
</tr>
<tr>
<td>7</td>
<td>Signal ground</td>
</tr>
<tr>
<td>8</td>
<td>Output 2 + (out)</td>
</tr>
<tr>
<td>9</td>
<td>Trigger - (in)</td>
</tr>
<tr>
<td>10</td>
<td>Trigger + (in)</td>
</tr>
<tr>
<td>11</td>
<td>N/C</td>
</tr>
<tr>
<td>12</td>
<td>Input 1 + (in)</td>
</tr>
<tr>
<td>13</td>
<td>RXD RS-422/485 + (in)</td>
</tr>
<tr>
<td>14</td>
<td>TXD RS-422/485 - (out)</td>
</tr>
<tr>
<td>15</td>
<td>Noread/Output 3 + (out)</td>
</tr>
<tr>
<td>16</td>
<td>RXD RS-422/485 - (in)</td>
</tr>
<tr>
<td>17</td>
<td>Power ground</td>
</tr>
<tr>
<td>18</td>
<td>Power 10 to 28 VDC (in)</td>
</tr>
<tr>
<td>19</td>
<td>TXD RS-422/485 + (out)</td>
</tr>
<tr>
<td>20</td>
<td>Output 1 - (out)</td>
</tr>
<tr>
<td>21</td>
<td>Output 2 - (out)</td>
</tr>
<tr>
<td>22</td>
<td>Noread/Output 3 - (out)</td>
</tr>
<tr>
<td>23</td>
<td>Input 1 - (in)</td>
</tr>
<tr>
<td>24</td>
<td>New master - (in)</td>
</tr>
<tr>
<td>25</td>
<td>New master + (in)</td>
</tr>
</tbody>
</table>

PRODUCTS/DESCRIPTION

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