Matrix-2XX5 MP is an area CMOS reader for industrial applications requiring a wide field of view (FoV) while using 1D, 2D, stacked and postal codes. For example, the wide FoV Matrix models based on a 1.3 Megapixel sensor are suitable for CD/DVD identification using a single reader. Multicode simultaneous reading is also possible, such as in biomedical applications (96 vial rack reading in a single image acquisition). The fully integrated reader combines a LED lighting system, image capturing, decoding and communication interfaces in a single compact product. Matrix-2XX5 MP offers full programmability via Ethernet, an Autolearning function for quick installation and set-up without a PC, and DPM (Direct Part Marking) decoding capabilities.

In addition to the VisiSet™ software configuration, Matrix-2XX5 MP Ethernet connectivity offers several communication channels, such as TCP/IP socket for data and image transfer, HTTP server, FTP and mail client. Matrix-2XX5 MP AIM standards diagnostic software tools enable real time monitoring of code printing quality, position and orientation, exposure quality and decoding time on all decoded symbologies.

Matrix-2XX5 MP state-of-the-art decoding libraries are extremely effective on damaged and low quality bar code applications. The reader flexibility allows a smooth transition from standard bar code reading to 2D code symbologies. Matrix-2XX5 MP AIM standards diagnostic software tools enable real time monitoring of code printing quality, position and orientation, exposure quality and decoding time on all decoded symbologies. Matrix-2XX5 MP state-of-the-art decoding libraries are extremely effective on damaged and low quality bar code applications. The reader flexibility allows a smooth transition from standard bar code reading to 2D code symbologies.

Matrix-2XX5 MP is ready for use in various applications, offering many optical solutions to guarantee high accuracy in identifying codes with different resolutions at various distances with the best reading performance in its class. Customized solutions for specific applications are also available upon request.

### Applications

- Up to 100 codes in a single frame
- Up to 16 full frames/s (960 frames/min)
- 1D & 2D, stacked, postal code reading
- Autolearning function
- Code quality control (AIM)
- Ethernet configuration/data collection
- Image transfer capability via Ethernet
- Integrated LED lighting system
- 96 vial rack reading
- CD/DVD identification
- WIP control / product traceability
- Document and mail processing
- PCB production line tracking
- Direct Part Marking (DPM) applications
- Semiconductor production line tracking
- Chemical and biomedical analysis machines
- Small objects/pharmaceutical packaging

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**Specifications**

**ELECTRICAL CHARACTERISTICS**
- POWER SUPPLY: 10 to 30 Vdc
- POWER CONSUMPTION: 8 W max.; 5 W typ.

**MECHANICAL CHARACTERISTICS**
- DIMENSIONS: 121 x 73 x 57 mm (4.76 x 2.87 x 2.24 in)
- WEIGHT: 380 g (13.40 oz)
- CASE MATERIAL: Magnesium alloy

**PERFORMANCE**
- OPTICAL FEATURES: SXGA format CMOS sensor / LED array lighting systems
- READING ANGLES: Max. Pitch: ± 35°; Tilt: 360°
- READABLE SYMBOLOGIES: DataMatrix, QR Code, PDF417, I 2/5, Code 128, Code 39, EAN/UPC, postal codes and many more
- COMMUNICATION INTERFACE: RS232 + optocoupled RS232/RS422/RS485 up to 115.2 Kbit/s
- CONNECTIVITY modes: Ethernet IEEE 802.3 10 Base T and IEEE 802.3U 100 BaseT compliant
- DIGITAL INPUTS: Two SW programmable, optocoupled and polarity insensitive
- DIGITAL OUTPUTS: Three SW programmable optocoupled
- PROGRAMMING METHOD: Windows™ based configuration software (VisiSet™) via serial or Ethernet link
- DIAGNOSTIC SW TOOLS: AIM standards diagnostic tools on all symbologies decoded
- USER INTERFACE: Beeper, Keypad Button, LEDs (PWR, TRIG, READ, COM, POS, CAL)

**ENVIRONMENT**
- OPERATING TEMPERATURE: 0 to 40 °C (32 to 104 °F)
- STORAGE TEMPERATURE: -20 to 70 °C (-4 to 158 °F)
- HUMIDITY: 90% non condensing
- VIBRATION RESISTANCE: IEC 68-2-6 test FC 1.5 mm; 10 to 55 Hz; 2 hours on each axis
- SHOCK RESISTANCE: IEC 68-2-27 test EA 30 G; 11ms; 3 shocks on each axis
- PROTECTION CLASS: IP64 (20X5 models)

**Reading Characteristics**

<table>
<thead>
<tr>
<th>MODEL / DESCRIPTION</th>
<th>FOCUS DISTANCE @ focus distance</th>
<th>FIELD OF VIEW</th>
<th>PPI</th>
<th>TYP. LINEAR &amp; STACKED CODE RESOLUTION</th>
<th>TYP. 2D CODE RESOLUTION</th>
<th>READING DISTANCE MIN.</th>
<th>READING DISTANCE MAX.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATRIX-2X25 HD MP</td>
<td>135 (5.31) 65×52 (2.56×2.05)</td>
<td>500</td>
<td>0.10 (4)</td>
<td>0.19 (7.5)</td>
<td>120(4.72)</td>
<td>150(5.90)</td>
<td></td>
</tr>
<tr>
<td>MATRIX-2X45 LD MP</td>
<td>100 (3.94) 120×96 (4.72×3.78)</td>
<td>270</td>
<td>0.20 (8)</td>
<td>0.38 (15)</td>
<td>80(3.15)</td>
<td>120(4.72)</td>
<td></td>
</tr>
<tr>
<td>MATRIX-2X55 MR MP</td>
<td>180 (7.09) 215×172 (8.46×6.77)</td>
<td>150</td>
<td>0.30 (12)</td>
<td>0.60 (24)</td>
<td>140(5.51)</td>
<td>240(9.44)</td>
<td></td>
</tr>
</tbody>
</table>

1 = 20X5 serial models, 21X5 Ethernet models.

**Applications**

- 96 vial rack reading
- CD/DVD identification
- Multicode A5 sheet reading