MATRIX 300N™

DATALOGIC

The Matrix 300N™ is a ultra-compact image based bar code reader purpose-built for superior performance on high speed and Direct Part Marking (DPM) applications.

With a high resolution sensor and ultra-fast image acquisition at 1.3 megapixels/60 frames per second, Matrix 300N™ is the next-generation, compact imager in the Matrix family. The optical system incorporates a liquid lens module for electronic focus control. As result the reader offers automatic focus adjustment without the addition of moving parts.

The integrated illuminator is embedded over the entire front surface of the reader. This innovative design allows for bright and uniform illumination of the bar code. The lighting design uses both bright field and dark field patterns, resulting in optimal illumination on normal, etched, reflective or textured surfaces. Moreover polarized models are available for 90°mounting or extremely reflective surfaces.

With exceptionally small physical dimensions and rotating connector, the Matrix 300N™ can be easily integrated into the tightest spaces.

Additionally, the M12, 4 pole connections sets a new standard for easy integration into existing systems for the OEM industry.

In addition to its compact, flexible design, the Matrix 300N™ offers cost-effective communication options with Power over Ethernet (POE) connectivity through a standard Ethernet connection.

The Matrix 300N™ is the most cost effective solution for bar code imagers, providing onboard PROFINET-IO and ETHERNET/IP and eliminating external communication boxes or converters.

The Matrix 300N™ interfaces directly with a PROFINET or ETHERNET/IP enabled PLCs, reducing the complexity and cost of solutions.

HIGHLIGHTS

- Ultra-compact dimensions
- High performance DPM reading
- Liquid Lens Dynamic Focus Control
- Integrated dual illuminator: dark field/bright field
- Fast and high resolution image sensor
- Power over Ethernet Option and onboard PROFINET-IO
- Extreme Industrial grade: IP67 Industrial grade for harsh environments, 0-50°C operating temperature
- Polarized model available for reading over reflecting surfaces

APPLICATIONS

- **Manufacturing, Electronics and Automotive:**
  - DPM code validation after marking
  - Work-in-progress control
  - Parts and assemblies traceability
- **Food & Beverage**
  - Work-in-progress traceability
- **Document Processing**
  - High speed process control
- **Medical**
  - Medical device traceability
- **Clinical Lab Automation**
  - Biomedical analysis machines
  - Specimen collection machines
- **Logistics Automation**
  - Carton and tote traceability
  - Automated warehousing

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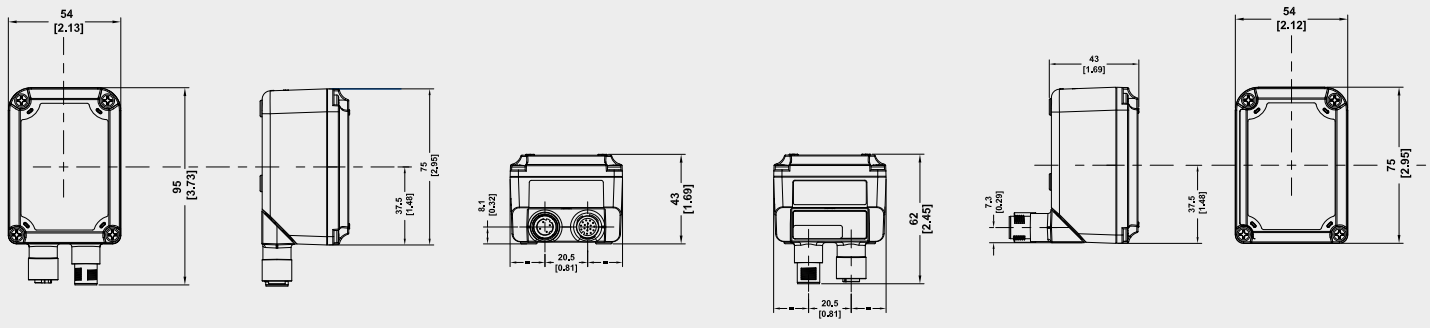
TECHNICAL SPECIFICATIONS

	STANDARD MODELS
Dimensions	95 x 54 x 43 mm (3.73 x 2.13 x 1.69 in) Connector @ 0° 75 x 54 x 62 mm (2.95 x 2.12 x 2.45 in) Connector @ 90°
Weight	238 g (8.3 oz.) with lens and internal illuminator
Case Material	Aluminum, Plastic protective window cover
Operating Temperature	Manual Focusing models: 0° to +50 °C (32 to 122°F) Electronic Liquid Lens models: 0° to +45 °C (32 to 113°F)
Storage Temperature	-20 to 70 °C (-4 to 158 °F)
Protection Class	IP67
Esd Safe	YES for the models with ESD Safe front cover
Yag Laser Protection	YES for the models with YAG filter
Polarizing Filter	YES, for the models with Polarizing filter
Power Supply	Standard: 10 VDC to 30 VDC / Power over Ethernet: 48 Vdc (IEEE.802.3af)
Power Consumption	8 W max; 5W typical
Sensor	Image Resolution 1280 x 1024 (1.3 megapixels) - CMOS global shutter
Frame Rate	60 frames/s
Optical Focus Control	Electronic for liquid lens model (LQL-9MM) Manual for fixed lens model (LNS-6mm, LNS-9mm, LNS-12mm, LNS-16mm)
Optical models/viewing angles:	66° (6mm) . 40° (9mm) . 32°(12mm) . 24° (16mm)
Aiming System	Dual laser pointer (CDRH/IEC Class II)
Readable Symbologies	1D Codes: all standard 1 dimensional symbologies 2D Codes: Data Matrix, QR Code, Micro QR, Maxicode, Aztec Postal Codes: Royal Mail, Japan Post, Planet, Postnet and many more
Com. Interfaces	Ethernet 10/100: Ethernet IP, TCP/IP, UDP, FTP, MODBUS TCP Serial RS232/RS422/RS485 up to 115.2 Kbit/s + Aux RS232 On-board PROFINET-IO
Reader Networking	Datalogic ID-NET™
Connectivity Modes	Pass Through, Master/Slave, Ethernet point to point
Digital Inputs	2 opto-isolated. Polarity insensitive and SW Programmable.
Digital Outputs	3 SW programmable PNP/NPN (short circuit protection). OUT3 programmable as input Output current 100 mA max, Saturation voltage < 3 V @ 100 mA
Programming Method	Windows™ based SW (DL.CODE™) via Ethernet
User Interface	X-PRESS™, Embedded Human Machine Interface Beeper, Push Button, 7 LEDs (Status, Comm. , Trigger, Good Read, Ready, Power on, Network)
Code Quality Metrics	AIM DPM, ISO/IEC 15415, ISO/IEC 15416, ISO/IEC 16022, ISO/IEC 18004, AS9132A

MECHANICAL DRAWINGS



MODELS

ORDER No.	DESCRIPTION	CONFIGURATION
937600084	MATRIX 300N 423-010 LNS-9 RED MED STD	Manual lens 9 mm, wide angle RED illuminator (lighting)
937600093	MATRIX 300N 483-010 LNS-9 MLT-DPM STD	Manual lens 9 mm, multiple illuminator for DPM
937600088	MATRIX 300N 434-010 LNS-12 RED NARR STD	Manual lens 12 mm, narrow angle RED illuminator
937600080	MATRIX 300N 435-010 LNS-16 RED NARR STD	Manual lens 16 mm, narrow angle RED illuminator
937600056	MATRIX 300N 472-011 LQL-9 LT-DPM ESD	Liquid lens 9 mm, bright field illuminator for DPM
937600101	MATRIX 300N 412-014 LQL-9 RED WD ESD+PLZ	Liquid lens 9mm wide angle RED illuminator
937600106	MATRIX 300N 453-015 LNS-9 WTH WD STD+PLZ	Manual lens 9mm wide angle WHITE illuminator

Other options available: white illumination, 6mm manually adjustable lens, ESD safe, laser marking protection (YAG filter), Polarizing filter.

CE

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A Paragon Print Systems Company

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