MATRIX-2000™

1D & 2D, Stacked, Postal Code Area CCD Reader

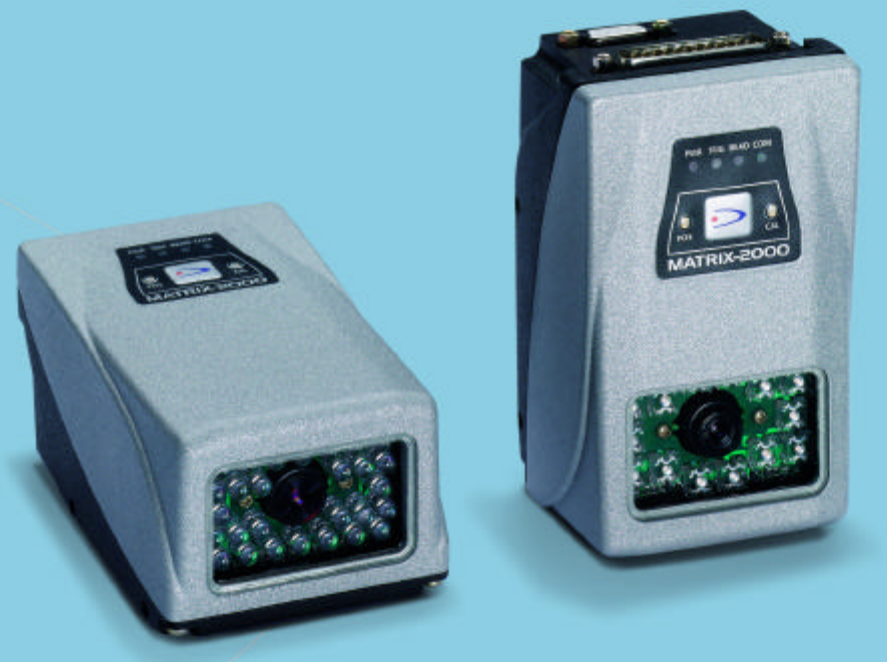
DATALOGIC
Your Life. Our Enthusiasm™


Extensive optical solutions

Autolearning


Multicode

VisiSet™ via Ethernet



Unattended Scanning Systems

General Description

Matrix-2000™ is an area CCD reader for industrial applications using bar codes, 2D, stacked and postal codes. The fully integrated reader combines a LED lighting system, image capturing, decoding and communication interfaces in a single compact product. Matrix-2000™ now offers full programmability via Ethernet, an Autolearning function for quick installation and set-up without a PC, higher dynamic reading performance and DPM (Direct Part Marking) decoding capabilities.

Besides the VisiSet™ software configuration, Matrix-2000™ Ethernet connectivity also includes several communication channels, such as TCP/IP socket for data and image transfer, HTTP server, FTP and mail client. These features allow high effectiveness in the fast growing Ethernet applications.

Matrix-2000™ DPM decoding capabilities permit the reading of DataMatrix and Dot Matrix codes directly marked with laser etching, dot peening and low resolution ink jet technologies. DPM technologies are widely used in automotive, aerospace and tooling manufacturing industries. In specific reading conditions, best results are obtained jointly with external lighting systems, available as Datalogic accessories.

Matrix-2000™ diagnostic software tools enable real time monitoring of code printing quality according to AIM standards for all symbologies decoded, position and orientation, exposure quality and decoding time.

Matrix-2000™ 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 bar code symbologies.

Matrix-2000™ 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.

Features

- Up to 60 frames/s (3600 frames/min)
- Up to 100 code readings in a single frame
- Over 6.0 m/s object speed
- 1D & 2D, stacked, postal code reading
- Autolearning function
- Code quality control (AIM standards)
- Ethernet configuration/data collection
- Internal image buffering
- Image transfer capability
- Integrated LED lighting system
- Direct or 90° reading window

Applications

- 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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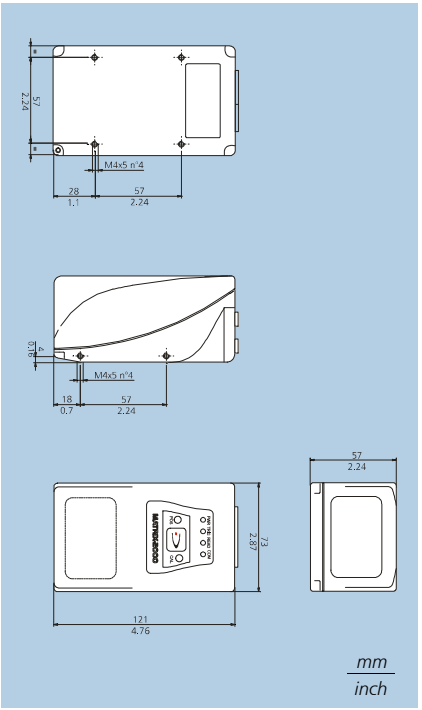
Specifications

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	VGA format CCD sensor / LED array lighting systems
FRAME RATE	Up to 60 frames/s
READING WINDOW	Direct or 90°
READING ANGLES	Max. Pitch: ± 35°; Tilt: 360°
READABLE SYMBOLOGIES	DataMatrix, QR Code, PDF417, I 2/5, Code 128, Code 39, EAN/UPC, RSS, postal codes and many more
COMMUNICATION INTERFACE	RS232 + optocoupled RS232/RS422/RS485 up to 115.2 Kbit/s Ethernet IEEE 802.3 10 Base T and IEEE 802.3U 100 BaseTx compliant
CONNECTIVITY MODES	Pass Through, Master/Slave, Multiplexer, ETH point to point and network
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	Code Quality (AIM standards), Exposure Indication, Code Position and Orientation, Decoding Time
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 (20XX models)

Dimensions



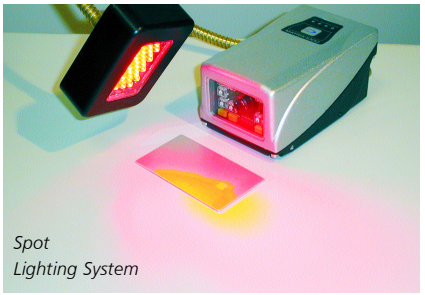
Reading Characteristics

MODEL / DESCRIPTION	TYP. 2D CODE RESOLUTION mm (mils)	TYP. 1D/STACKED CODE RESOLUTION mm (mils)	FOCUS DISTANCE mm (in)	FIELD OF VIEW AT FOCUS DISTANCE mm x mm (in x in)	READING DISTANCE mm (in)
MATRIX-2X11 Ultra High Density	0.13 (5)	0.10 (4)	60 (2.36)	17 x 13 (0.67 x 0.51)	23 (0.91)
MATRIX-2X21/2121-R High Density	0.19 (7.5)	0.10 (4)	85 (3.35)	25 x 19 (0.98 x 0.75)	15 (0.59)
MATRIX-2X31 Standard Density	0.25 (10)	0.15 (6)	115 (4.53)	34 x 26 (1.34 x 1.02)	30 (1.18)
MATRIX-2X41/2141-R Low Density	0.38 (15)	0.20 (8)	80 (3.15)	54 x 40 (2.13 x 1.57)	35 (1.38)
MATRIX-2X51 Medium Range	0.60 (24)	0.30 (12)	160 (6.30)	95 x 70 (3.74 x 2.76)	100 (3.94)
MATRIX-2X61 Long Range	0.60 (24)	0.30 (12)	500 (19.68)	110 x 82 (4.33 x 3.23)	140 (5.51)

**20X1 = serial models; 21X1 = Ethernet models; 21X1-R = 90° reading window models. Customized models available upon request.*

Accessories

Cone Lighting System



Spot Lighting System

C-Box Line

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DATALOGIC Quality Partner Accredited Reseller

Datalogic Communication Division
Printed in Italy August 2005
9C0004670