Matrix 200™

Compact 2D Imager

Highlights

Matrix 200™ is the new Datalogic 2D reader offering excellent reading performance, ultra compact size and extreme ease of use. Thanks to innovative optical features, advanced software functions and complete connectivity options, Matrix 200™ is the cost effective solution for applications where the space is very limited.

ULTRA COMPACT SIZE
Compact dimensions, straight and 90° reading window models availability allow flexible mounting and positioning in narrow spaces.

EXCELLENT READING PERFORMANCE
WVGA image sensor, up to 60 frames/s acquisition rate and dynamic reading capability, together with powerful decoding libraries provide excellent performance on a wide range of code symbologies as well as damaged and low quality codes. Matrix 200™ allows reading 10 mils codes in moving applications at speeds up to 2 m/sec.

INNOVATIVE OPTICAL FEATURES
The innovative optical and lighting systems ensure wide field of view at short reading distances, combined with excellent illumination pattern. Matrix 200™ has a maximum reading distance of 200 mm, and it can read at near distance ultra high density 2D codes up to 0.076 mm (3 mils).

EASE OF USE
The intuitive X-PRESS™ Human Machine Interface makes installation and maintenance easier than ever thanks to a five LED bar graph and the multi-function key providing immediate access to relevant functions such as Aiming, Setup (for automatic imager calibration), Learn (for automatic code setting), Test Mode (for bar graph activation). A Green Spot provides immediate Good Read feedback.

ENHANCED CONNECTIVITY
An embedded high speed ID-NET™ communication interface allows efficient data collection and simplifies network wiring. USB interface models allow direct connection to a PC.

INDUSTRIAL FEATURES
Matrix 200™, with its rugged construction, IP65 protection class, 50°C max operating temperature and 10 to 30 VDC power supply is the ideal product for industrial applications.

Ultra Compact Dimensions

USB Interface

ID NET™
Enhanced Connectivity

Xpress interface
Ease Of Setup

Features

- Ultra compact dimensions
- Direct and 90° window models for smart mounting
- Outstanding decoding capability on 1D, 2D, Stacked and Postal symbologies
- High performance on dynamic reading applications
- X-PRESS™ for easy and intuitive setup
- Optical aiming system
- 10 to 30 VDC Power Supply
- USB connectivity
- ID-NET™ embedded high speed connectivity
- Region Of Interest Windowing for higher frame rate
- Run Time Self Tuning for higher flexibility

Applications

- **Electronics**
  - PCB Board Tracking
  - Electronic Products Tracking

- **Pharmaceutical & Chemical**
  - Pharmaceutical and Medicine Manufacturing
  - Medical Devices Traceability

- **OEM**
  - Chemical & Biomedical Analysis Machines
  - Access control systems
  - Self Service Systems (ATM, Kiosks)
  - Print & Apply systems
  - Document Handling

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Matrix 200™

Specifications

Applications

Models

	P/N	Description
MODELS	937501x00	MATRIX 200 211-10x WVGA-Near Distance-25 Pin
	937501x01	MATRIX 200 212-10x WVGA-Medium Distance-25 Pin
	937501x02	MATRIX 200 213-10x WVGA-Far Distance-25 Pin
	937501x03	MATRIX 200 214-10x WVGA-Ultra High Density-25 Pin
	937501x04	MATRIX 200 211-12x WVGA-Near Distance-USB
	937501x05	MATRIX 200 212-12x WVGA-Medium Distance-USB
	937501x06	MATRIX 200 213-12x WVGA-Far Distance-USB
	937501x07	MATRIX 200 214-12x WVGA-Ultra High Density-USB
	937501x12	MATRIX 200 211-00x WVGA-Near Distance-90°-25 Pin
	937501x13	MATRIX 200 212-00x WVGA-Medium Distance-90°-25 Pin
	937501x14	MATRIX 200 213-00x WVGA-Far Distance-90°-25 Pin
	937501x15	MATRIX 200 214-00x WVGA-Ultra High Density-90°-25 pin
	937501x16	MATRIX 200 211-02x WVGA-Near Distance-90°-USB
	937501x17	MATRIX 200 212-02x WVGA-Medium Distance-90°-USB
	937501x18	MATRIX 200 213-02x WVGA-Far Distance-90°-USB
	937501x19	MATRIX 200 214-02x WVGA-Ultra High Density-90-USB

NOTE: **X = 0** → MATRIX 200™ Standard Versions, **X = 1** → MATRIX 200™ ESD Safe Versions, **X = 2** → MATRIX 200™ ESD Safe + YAG Cut Filter Versions.

PCB Handling

Technical Data

	MATRIX 200 21x-1x0	MATRIX 200 21x-0x0
DIMENSIONS	50 x 25 x 45 mm	54 x 32 x 45 mm
	(1.97 x 0.98 x 1.77 in)	(2.12 x 1.26 x 1.77 in)
WEIGHT	60g. (2.1 oz.) without cable	
CASE MATERIAL	Aluminum alloy	
OPERATING TEMPERATURE	0 to 50 °C (32 to 122 °F)	
STORAGE TEMPERATURE	-20 to 70 °C (-4 to 158 °F)	
HUMIDITY	90% non condensing	
PROTECTION CLASS	IP65	
OPTICAL FEATURES	WVGA (752 x 480) CMOS Sensor with Global Shutter	
FRAME RATE	60 frame/s	
READING WINDOW	Direct or 90°	
READING ANGLES	Max. Pitch: ± 35°; Tilt: 0-360°	
READABLE SYMBOLOGIES	1D and Stacked: IL 2/5, Code 128, Code 39, EAN/UPC, PDF417, Micro PDF417, Pharmacode, GS1 DATABAR (RSS) family, and many more	
	2D: Data Matrix, QR Code, Maxicode, Aztec, Microglyph	
	Postal: Royal Mail, Japan Post, Planet, Postnet and many more	
COMMUNICATION INTERFACES	RS232 + RS232/RS422/RS485 up to 115.2 Kbit/s	
	ID-NET™ port up to 1 Mbps	
	USB 2.0 up to 921.6 Kbit/s	
CONNECTIVITY MODES	Pass Through, Master/Slave, Multiplexer, USB Point To Point	
DIGITAL INPUTS	Two SW programmable, optocoupled and polarity insensitive	
DIGITAL OUTPUTS	Two SW programmable optocoupled	
DEVICE PROGRAMMING	X-PRESS™ Human Machine Interface	
	Windows™ based SW (VisiSet™) via serial or USB link	
	Serial Host Mode Programming sequences	
USER INTERFACE	X-PRESS™ Human Machine Interface	
	Beeper, Programmable Push Button, LEDs (Status, Com, Trigger, Good, Ready, Power On, Good read Spot)	
CODE QUALITY VERIFICATION	ISO/IEC 16022 (Data Matrix), ISO/IEC 18004 (QR Code)	
	ISO/IEC 15415 (Print quality test specifications for 2D codes)	
	ISO/IEC 15416 (Print quality test specifications for linear codes)	
	AS9132A (Data Matrix Quality Requirements for Parts Marking)	
	AIM DPM (Global Direct Part Mark Quality Guideline)	
	Matrix 200 21x-x0x	Matrix 200 21x-x2x
POWER SUPPLY:	10 to 30 VDC	5 VDC
POWER CONSUMPTION:	2.5 W max; 2.0 W typical	

Medical&Pharmaceutical

OEM

Reading Characteristics

Models	Focus Distance mm (in)	Field of View @ Focus Distance mm (in)	PPI @ Focus Distance	Typ. 1D And Stacked Code Resolution mm (mils)	Typ. 2D Code Resolution mm (mils)	Reading Distance mm (in) Min	Max
MATRIX 200 214-xxx	35 (1.38)	17.5 x 11	1090	0.05 (2)	0.076 (3)	32 (1.26)	38 (1.50)
		(0.69 x 0.43)		0.076 (3)	0.13 (5)	25 (0.98)	45 (1.77)
MATRIX 200 211-xxx	45 (1.77)	35 x 22	546	0.076 (3)	0.13 (5)	40 (1.57)	50 (1.97)
		(1.38 x 0.87)		0.10 (4)	0.19 (7.5)	35 (1.38)	65 (2.56)
MATRIX 200 212-xxx	65 (2.56)	50 x 32	380	0.10 (4)	0.19 (7.5)	48 (1.89)	82 (3.23)
		(1.97 x 1.26)		0.15 (6)	0.25 (10)	40 (1.57)	100 (3.94)
MATRIX 200 213-xxx	105 (4.13)	80 x 50	240	0.15 (6)	0.25 (10)	65 (2.56)	130 (5.12)
		(3.15 x 1.97)		0.20 (8)	0.38 (15)	55 (2.17)	175 (6.89)

MATRIX 200 21x-x0x = 25 Pin Serial Models, MATRIX 200 21x-x2x = USB Models, MATRIX 200 21x-1xx = Direct Window Models, MATRIX 200 21x-0xx = 90° Window Models.

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For more information and software downloads see: www.automation.datalogic.com/matrix200