

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



X-PRESS™
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

Matrix 200™

Specifications

Applications

Models

| MODELS | P/N | Description |
|-----------|--------------------|------------------------------------|
| 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.

Technical Data

| | | |
|---------------------------|---|--|
| DIMENSIONS | MATRIX 200 21x-1x0 50 x 25 x 45 mm (1.97 x 0.98 x 1.77 in) | MATRIX 200 21x-0x0 54 x 32 x 45 mm (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 SYBLOGIES | 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) | |
| POWER SUPPLY: | Matrix 200 21x-x0x 10 to 30 VDC | Matrix 200 21x-x2x 5 VDC |
| POWER CONSUMPTION: | 2.5 W max; 2.0 W typical | |



PCB Handling



Medical&Pharmaceutical



OEM

Reading Characteristics

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

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