



The Matrix 120™ imager is the smallest ultra-compact industrial 2D imager range in the market to fit any integration space and the smallest compact 2D imager with embedded Ethernet connectivity.

The Matrix 120™ is available in different models, including a WVGA sensor for standard applications or a 1.2 MP sensor for high resolution bar codes. Moreover, a wide angle version makes the Matrix 120™ the perfect solution for proximity reading.

The Matrix 120™ is characterized with the top industrial grade parts in its class (IP65 and 0-45 °C / 32 – 133 °F), with ESD safe models for applications in the electronic industry and features a glass-free reading window, suitable for the Food and Beverage environment.

As part of the full Matrix series, the Matrix 120™ leads the market for customer ease of use because of DL.CODE™ configuration software, X-Press™ button and intuitive HMI.

The Matrix 120™ is the entry level model of the best-in-class Matrix family of high performance industrial 2D imagers.

The Matrix 120™ is the perfect solution when small dimension, simple integration and performance are the key drivers. This makes the Matrix 120™ the ideal product for OEM customers: Chemical/Biomedical industry and Print & Apply applications. Additionally, this imager is perfect for entry level applications in the Factory Automation arena: Electronics, Packaging and Food/Beverage.



IDENTIFICATION

## HIGHLIGHTS

- Ultra compact dimensions for easy integration
- WVGA – 1.2 MP and wide angle models
- Smart user selectable focus for high application flexibility
- Embedded Ethernet connectivity
- Serial and USB options on the same model
- ESD versions for electronic applications
- Polarized Version for 90° mounting and reflecting surfaces
- Top industrial grade: IP65; operating temperatures: 0-45 °C / 32 – 133 °F
- DL.Code software configurator for outstanding ease of setup
- Xpress, Datalogic's 'Green Spot' technology and intuitive HMI for top ease of use

## APPLICATIONS

- Electronics – Track and trace PCB board manufacturing
- Factory Automation: Print & Apply – label verification
- Factory Automation: Food & Beverage – traceability
- OEM: Kiosks – ticketing machine
- Healthcare: Clinical Lab – vials identification
- Chemical and biomedical analysis machine

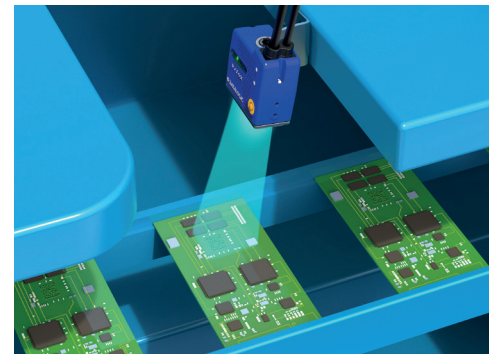
## TECHNICAL DATA

|                                   |  |
|-----------------------------------|--|
| READING RANGE (MIN - MAX)         | Matrix 120 - WVGA: 25-190mm [1.0-7.5 in]<br>Matrix 120 - MP: 25-220mm [1.0-8.7 in]   |
| FOCUSING SYSTEM                   | Manual adjustment in three precalibrated positions (45, 70, 125mm - WVGA; 45, 80, 125mm - MP)  |
| SENSOR                            | CMOS sensor with Global Shutter/WVGA - 752x480 px<br>CMOS sensor with Global Shutter/MP - 1280x960 px  |
| FRAME RATE                        | up to 57 full-frame/s (WVGA model) , up to 36 full-frame/s (MP model)  |
| ON BOARD MEMORY                   | 128 MB   |
| READABLE CODES                    | 1D Codes: all standard 1 dimensional symbologies<br>2D Codes: Data Matrix, QR Code, Micro QR, Maxicode, Aztec<br>Postal Codes: Royal Mail, Japan Post, Planet, Postnet and many more |
| CODE ORIENTATION                  | Omnidirectional on any code type   |
| MULTILABEL/MULTICODE READING      | ✓  |
| VOLTAGE SUPPLY/ POWER CONSUMPTION | 5-30 VDC; 1.6 to 2.4 W   |
| IP RATING                         | IP65   |
| TEMPERATURE RANGE                 | 0-45 °C / 32 - 133 °F  |
| CASE MATERIAL                     | Zama (Zinc Alloy) - Plastic reading window cover   |
| DIMENSIONS (TYPICAL VALUE)        | 45.4 x 31.1 x 23.5 mm [1.8 x 1.2 x 1 in] (SER+USB model)<br>45.4 x 48.5 x 23.5 mm [1.8 x 1.9 x 1 in] (SER+ETH model)   |
| WEIGHT                            | 117 g (4.1 oz) with cable (SER+USB model) - 200 g (7.1 oz) with cable (SER+ETH model)  |
| ESD SAFE                          | ✓  |
| POLARIZING FILTER                 | ✓  |
| EMBEDDED COMMUNICATION INTERFACES | RS-232/RS-422/USB 2.0 high speed (USB-CDC, USB-HID)<br>Main RS-232 or RS-422 FD (2400 to 115200 bit/s)   |
| ETHERNET                          | Embedded (SER+ETH model only) 10/100 Mbit/s*   |
| DIGITAL INPUTS                    | Two SW Programmable (PNP/NPN)  |
| DIGITAL OUTPUTS                   | Two SW Programmable (PNP/NPN)  |
| DEVICE PROGRAMMING                | X-PRESS™ Human Machine Interface<br>Windows-based SW (DL.CODE™) via Ethernet or Serial Interface<br>Host Mode Programming sequences sent over Serial or Ethernet TCP interfaces      |

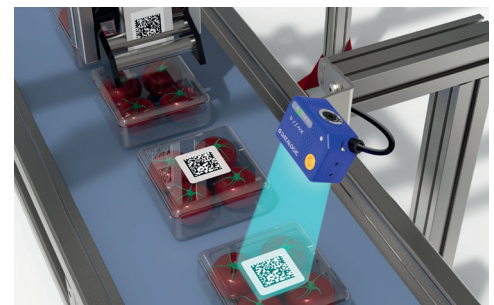
\* The embedded Ethernet interface supports application protocols: TCP/IP, EtherNet/IP, PROFINET-I/O, Modbus TCP.



Pharma



Electronics



Food & Beverage

## MODELS

| Code      | Description                            | SW      | Sensor | Connectivity | Type | Code Library |
|-----------|--|---------|--------|--------------|------|--------------|
| 937800000 | MATRIX 120 210-000 WVGA SER+USB STD    | DL.Code | WVGA   | SER+USB      | STD  | 1D+2D        |
| 937800001 | MATRIX 120 210-010 WVGA SER+ETH STD    | DL.Code | WVGA   | SER+ETH      | STD  | 1D+2D        |
| 937800002 | MATRIX 120 210-001 WVGA SER+USB ESD    | DL.Code | WVGA   | SER+USB      | ESD  | 1D+2D        |
| 937800003 | MATRIX 120 210-011 WVGA SER+ETH ESD    | DL.Code | WVGA   | SER+ETH      | ESD  | 1D+2D        |
| 937800004 | MATRIX 120 310-001 1.2MP SER+USB ESD   | DL.Code | 1.2 MP | SER+USB      | ESD  | 1D+2D        |
| 937800005 | MATRIX 120 310-011 1.2MP SER+ETH ESD   | DL.Code | 1.2 MP | SER+ETH      | ESD  | 1D+2D        |
| 937800006 | MATRIX 120 210-100 WVGA SER+USB 1D     | DL.Code | WVGA   | SER+USB      | STD  | 1D           |
| 937800007 | MATRIX 120 210-110 WVGA SER+ETH 1D     | DL.Code | WVGA   | SER+ETH      | STD  | 1D           |
| 937800008 | MATRIX 120 311-000 1.2MP SER+USB WA    | DL.Code | 1.2 MP | SER+USB      | WA   | 1D+2D        |
| 937800009 | MATRIX 120 311-010 1.2MP SER+ETH WA    | DL.Code | 1.2 MP | SER+ETH      | WA   | 1D+2D        |
| 937800010 | MATRIX 120 311-100 1.2MP SER+USB WA 1D | DL.Code | 1.2 MP | SER+USB      | WA   | 1D           |
| 937800011 | MATRIX 120 311-110 1.2MP SER+ETH WA 1D | DL.Code | 1.2 MP | SER+ETH      | WA   | 1D           |
| 937800014 | MATRIX 120 311-005 1.2 SER+USB WA PLZR | DL.Code | 1.2 MP | SER+ETH      | WA   | 1D+2D        |
| 937800015 | MATRIX 120 311-015 1.2 SER+ETH WA PLZR | DL.Code | 1.2 MP | SER+ETH      | WA   | 1D+2D        |

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