

Datalogic's Matrix 210N™ offers extreme reading performance with integrated serial, USB, Ethernet & PROFINET in an ultra-compact housing.

With a WVGA image sensor able to capture up to 60 frames per second, and a flexible and powerful illuminator, the Matrix 210N™ offers best-in-class reading performance for direct part-marked bar codes.

Unrivaled decoding libraries running on a high speed hardware platform deliver superior reading performance and decoding rates. With these combined features the Matrix 210N supports high throughput systems which results in improved production efficiency.

Both read data and captured images are transferred using the on-board Ethernet ports. The captured images can be either saved internally or easily and quickly uploaded to external PCs for storage or offline analysis.

Compact dimensions with straight, right angle, or electronic variable focus options provide superb contact reading capabilities and simple mechanical integration into small spaces.

Matrix 210N imager embeds the standard Matrix Series configuration software DL.Code that tremendously improves the ease of setup and is intuitive for the use and maintenance of the reader.

The Green Spot - projected onto the scanned object - provides easy and real-time feedback of the reading status without any additional software or accessories.



IDENTIFICATION

## HIGHLIGHTS

- Integrated Ethernet, PROFINET, EtherNet/IP, interfaces
- Dynamic focus liquid lens models
- High performance DPM bar code reading
- On-board image saving
- Outstanding decoding capability on DPM and printed 1D & 2D standard codes
- Straight and right angle models for smart mounting
- ID-NET™ reader clustering/networking
- Ultra-fast image acquisition for high speed production lines
- Industrial Protection: ESD-safe, YAG, IP65
- New DL.CODE software that offers a usable interface

## APPLICATIONS

### Electronic

- PCB board tracking
- Electronic products tracking

### Pharmaceutical & Chemical

- Pharmaceutical manufacturing and packaging
- Supply chain traceability

### OEM

- Chemical & Biomedical Analysis Machines
- Print & Apply systems
- Document Handling



## TECHNICAL DATA

|                                   | FIXED FOCUS MODELS                                                                                                                                                                   |                                                                        | ELECTRONIC FOCUS CONTROL MODEL             |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------|
| Dimensions                        | <b>Straight optic</b><br>50 x 25 x 45 mm<br>(1.97 x 0.98 x 1.77 in)                                                                                                                  | <b>Right angle optic</b><br>54 x 32 x 45 mm<br>(2.13 x 1.26 x 1.77 in) | 61 x 25 x 45 mm<br>(2.40 x 0.98 x 1.77 in) |
| Weight                            | 204 g. (7.2 oz.) with cable                                                                                                                                                          |                                                                        | 237 g. (8.4 oz.) with cable                |
| Case material                     | Aluminum, plastic protective window cover                                                                                                                                            |                                                                        |                                            |
| Operating temperature             | 0° to 50° C (32 to 122 °F)                                                                                                                                                           |                                                                        | 0° to +45 °C (32 to 113°F)                 |
| Storage temperature               | -20 to 70 °C (-4 to 158 °F)                                                                                                                                                          |                                                                        |                                            |
| Protection class                  | IP65                                                                                                                                                                                 |                                                                        |                                            |
| Esd safe                          | YES, with ESD Safe front cover accessory                                                                                                                                             |                                                                        |                                            |
| Yag laser protection              | YES, with YAG cut filter accessory                                                                                                                                                   |                                                                        |                                            |
| Power supply                      | Standard: 10 VDC to 30 VDC                                                                                                                                                           |                                                                        |                                            |
| Power consumption                 | 0.4 to 0.15 A, 4.5 W max                                                                                                                                                             |                                                                        |                                            |
| Sensor                            | Image Resolution 780 x 480 WVGA - CMOS global shutter                                                                                                                                |                                                                        |                                            |
| Frame rate                        | 60 frames/s                                                                                                                                                                          |                                                                        |                                            |
| Optical focus control             | Fixed                                                                                                                                                                                | Variable, Electronic focus control                                     |                                            |
| Aiming system                     | Blue Ring LED system                                                                                                                                                                 | Dual laser pointer (CDRH/IEC Class II)                                 |                                            |
| Readable symbologies              | 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 |                                                                        |                                            |
| Embedded communication interfaces | Ethernet 10/100: EtherNet/IP, PROFINET, TCP/IP, UDP, FTP, MODBUS TCP<br>Serial RS232/RS422/RS485 up to 115.2 Kbit/s + Aux RS232                                                      |                                                                        |                                            |
| Reader networking                 | Datalogic ID-NET™                                                                                                                                                                    |                                                                        |                                            |
| Connectivity modes                | Master/Slave, Ethernet point to point                                                                                                                                                |                                                                        |                                            |
| Digital inputs                    | 2 opto-isolated. Polarity insensitive and SW Programmable.                                                                                                                           |                                                                        |                                            |
| Digital outputs                   | 2 SW programmable, opto-coupled                                                                                                                                                      |                                                                        |                                            |
| Programming method                | Windows™ based SW (DL.CODE™) via serial, USB and Ethernet                                                                                                                            |                                                                        |                                            |
| User interface                    | X-PRESS™, Embedded Human Machine Interface<br>Beeper, Push Button, 7 LEDs (Status, Comm. , Trigger, Good Read, Ready, Power on, Network)                                             |                                                                        |                                            |
| Code quality metrics              | AIM DPM, ISO/IEC 15416                                                                                                                                                               |                                                                        |                                            |

## MODELS

|          |                                  | P/N       | STRAIGHT OPTICS                          | P/N       | RIGHT ANGLE OPTICS                       |
|----------|----------------------------------|-----------|------------------------------------------|-----------|------------------------------------------|
| ETHERNET | Standard                         | 937501241 | MATRIX 210N 211-110 WVGA-NEAR-ETH-ST     | 937501250 | MATRIX 210N 211-010 WVGA-NEAR-90-ETH-ST  |
|          |                                  | 937501242 | MATRIX 210N 212-110 WVGA-MED-ETH-ST      | 937501251 | MATRIX 210N 212-010 WVGA-MED-90-ETH-ST   |
|          |                                  | 937501243 | MATRIX 210N 213-110 WVGA-FAR-ETH-ST      | 937501252 | MATRIX 210N 213-010 WVGA-FAR-90-ETH-ST   |
|          | ESD Safe                         | 937501259 | MATRIX 210N 211-111 WVGA-NEAR-ETH-ES     | 937501268 | MATRIX 210N 211-011 WVGA-NEAR-90-ETH-ES  |
|          |                                  | 937501260 | MATRIX 210N 212-111 WVGA-MED-ETH-ES      | 937501269 | MATRIX 210N 212-011 WVGA-MED-90-ETH-ES   |
|          |                                  | 937501261 | MATRIX 210N 213-111 WVGA-FAR-ETH-ES      | 937501270 | MATRIX 210N 213-011 WVGA-FAR-90-ETH-ES   |
|          | ESD Safe<br>YAG laser protection | 937501274 | MATRIX 210N 211-112 WVGA-NEAR-ETH-ESYF   | 937501277 | MATRIX 210N 211-012 WVGA-NEAR-90-ETH-ESY |
|          |                                  | 937501275 | MATRIX 210N 212-112 WVGA-MED-ETH-ESYF    | 937501278 | MATRIX 210N 212-012 WVGA-MED-90-ETH-ESYF |
|          |                                  | 937501276 | MATRIX 210N 213-112 WVGA-FAR-ETH-ESYF    | 937501279 | MATRIX 210N 213-012 WVGA-FAR-90-ETH-ESYF |
|          | Electronic focus control         | 937501282 | MATRIX 210N 235-110 WVGA-DPM-LL-ETH-STD  |           |                                          |
|          |                                  | 937501283 | MATRIX 210N 235-111 WVGA-DPM-LL-ETH-ES   |           |                                          |
|          |                                  | 937501284 | MATRIX 210N 235-112 WVGA-DPM-LL-ETH-ESYF |           |                                          |
| SERIAL   | Standard                         | 937501238 | MATRIX 210N 211-100 WVGA-NEAR-25P-ST     | 937501247 | MATRIX 210N 211-000 WVGA-NEAR-90-25P-ST  |
|          |                                  | 937501239 | MATRIX 210N 212-100 WVGA-MED-25P-ST      | 937501248 | MATRIX 210N 212-000 WVGA-MED-90-25P-ST   |
|          |                                  | 937501240 | MATRIX 210N 213-100 WVGA-FAR-25P-ST      | 937501249 | MATRIX 210N 213-000 WVGA-FAR-90-25P-ST   |
|          | ESD Safe                         | 937501256 | MATRIX 210N 211-101 WVGA-NEAR-25P-ES     | 937501265 | MATRIX 210N 211-001 WVGA-NEAR-90-25P-ES  |
|          |                                  | 937501257 | MATRIX 210N 212-101 WVGA-MED-25P-ES      | 937501266 | MATRIX 210N 212-001 WVGA-MED-90-25P-ES   |
|          |                                  | 937501258 | MATRIX 210N 213-101 WVGA-FAR-25P-ES      | 937501267 | MATRIX 210N 213-001 WVGA-FAR-90-25P-ES   |
| USB      | Standard                         | 937501244 | MATRIX 210N 211-120 WVGA-NEAR-USB-ST     | 937501253 | MATRIX 210N 211-020 WVGA-NEAR-90-USB-ST  |
|          |                                  | 937501245 | MATRIX 210N 212-120 WVGA-MED-USB-ST      | 937501254 | MATRIX 210N 212-020 WVGA-MED-90-USB-ST   |
|          |                                  | 937501246 | MATRIX 210N 213-120 WVGA-FAR-USB-ST      | 937501255 | MATRIX 210N 213-020 WVGA-FAR-90-USB-ST   |
|          | ESD Safe                         | 937501262 | MATRIX 210N 211-121 WVGA-NEAR-USB-ES     | 937501271 | MATRIX 210N 211-021 WVGA-NEAR-90-USB-ES  |
|          |                                  | 937501263 | MATRIX 210N 212-121 WVGA-MED-USB-ES      | 937501272 | MATRIX 210N 212-021 WVGA-MED-90-USB-ES   |
|          |                                  | 937501264 | MATRIX 210N 213-121 WVGA-FAR-USB-ES      | 937501273 | MATRIX 210N 213-021 WVGA-FAR-90-USB-ES   |

## READING CHARACTERISTICS

| MODELS                     | FOCUS DISTANCE | FIELD OF VIEW @ FOCUS DISTANCE | PPI (Pix per Element) @ FOCUS DISTANCE | TYP. 1D AND STACKED CODE RESOLUTION | 2D CODE RESOLUTION |                         | READING DISTANCE       |                          |
|----------------------------|----------------|--------------------------------|----------------------------------------|-------------------------------------|--------------------|-------------------------|------------------------|--------------------------|
|                            | mm (in)        | mm (in)                        |                                        | mm (mils)                           | mm (mils)          | mm (in)                 | Min. mm (in)           | Max. mm (in)             |
| MATRIX 210N 211-xxx NEAR   | 45 (1.77)      | 35 x 22<br>(1.38 x 0.87)       | 545                                    | 0.10 (4)                            | Max.<br>Typ.       | 0.13 (5)<br>0.19 (7.5)  | 42 (1.65)<br>36 (1.42) | 53 (2.08)<br>61 (2.40)   |
| MATRIX 210N 212-xxx MEDIUM | 65 (2.56)      | 50 x 32<br>(1.97 x 1.26)       | 380                                    | 0.15 (6)                            | Max.<br>Typ.       | 0.19 (7.5)<br>0.25 (10) | 54 (2.13)<br>47 (1.85) | 90 (3.54)<br>101 (3.97)  |
| MATRIX 210N 213-xxx FAR    | 105 (4.13)     | 80 x 50<br>(3.15 x 1.97)       | 238                                    | 0.20 (8)                            | Max.<br>Typ.       | 0.25 (10)<br>0.38 (15)  | 85 (3.35)<br>70 (2.76) | 135 (5.31)<br>192 (7.55) |

