



## Engineering peace of mind

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Machine Vision - ISO Verification - Serialization





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
	Straight optic 50 x 25 x 45 mm (1.97 x 0.98 x 1.77 in)	Right angle optic 54 x 32 x 45 mm (2.13 x 1.26 x 1.77 in)	61 x 25 x 45 mm (2.40 x 0.98 x 1.77 in)
Dimensions			
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 2D Codes: Data Matrix, QR Code, Micro QR, Maxicode, Aztec 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 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		
Code quality metrics	Beeper, Push Button, 7 LEDs (Status, Comm., Trigger, Good Read, Ready, Power on, Network) 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 YAG laser protection	937501274 MATRIX 210N 211-112 WVGA-NEAR-ETH-ESYF	937501277 MATRIX 210N 211-012 WVGA-NEAR-90-ETH-ESYF		
		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 (1.38 x 0.87)	545	0.10 (4)	Max. 0.13 (5) Typ. 0.19 (7.5)	0.13 (5)	42 (1.65)	53 (2.08)
MATRIX 210N 212-xxx MEDIUM	65 (2.56)	50 x 32 (1.97 x 1.26)	380	0.15 (6)	Max. 0.19 (7.5) Typ. 0.25 (10)	0.19 (7.5)	54 (2.13)	90 (3.54)
MATRIX 210N 213-xxx FAR	105 (4.13)	80 x 50 (3.15 x 1.97)	238	0.20 (8)	Max. 0.25 (10) Typ. 0.38 (15)	0.25 (10)	85 (3.35)	135 (5.31)