

# DH, DS, Magellan, Matrix

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**Россия** +7(495)268-04-70

**Казахстан** +7(727)345-47-04

**Беларусь** +(375)257-127-884

**Узбекистан** +998(71)205-18-59

**Киргизия** +996(312)96-26-47

эл.почта: [dob@nt-rt.ru](mailto:dob@nt-rt.ru) || сайт: <https://datasensor.nt-rt.ru/>

# DH-MV-RH3124MG011E

```
mirror_mod.use_x = false
mirror_mod.use_y = true
mirror_mod.use_z = false
```

➤

## OVERVIEW

- ✓ Red / White build-in illumination;
- ✓ Support Software Trigger/Hardware Trigger/Free Run, etc.;
- ✓ Gigabit Ethernet interface, providing 100M bandwidth;
- ✓ Abundant I/O interfaces, Ethernet, RS232, GPIO interface;
- ✓ DC 5V~24V power supply, low power consumption, less than 2.5W;
- ✓ Abundant code reading types, CODE128/ EAN/ CODE39/ CODE93/ CODEBAR /ITF25 /DM /QR, etc.;



## TECHNICAL SPECIFICATION

Basic	
Certifications	CE , FCC
Function	Abundant code reading types (1D: Code128/Code39/Code93/EAN etc. ; 2D: QR/DM etc.)
Lens Mount	M8
Max. Frame rate	20fps
Model	DH-MV-RH3124MG011E
Mono/Color	Mono
Pixel Size	3.75 x 3.75
Resolution	1280 x 960
Sensor Type	1/3
Series	3000
Shutter Mode	Global
Software	EasyID
Trigger Mode	Support Software Trigger/Hardware Trigger/Free Run, etc.
Port	
Communication Mode	RS232, Ethernet
Communication protocol	SDK, Serial, TCPServer, TCPClient, Profinet, Modbus TCP
Connector	Industrial-grade M12 connectors are Ethernet and GPIO interfaces
GPIO	1x RS232 interface, 1x Opto-isolated input, 1x Opto-isolated output, 1 configurable input and output
LED Indicator	Power indicator, Network indicator, Result indicator
Network Port	100M Ethernet

Performance	
FoV	42 x 32mm
Focal Length	NA
Focus Control	NA
Light Source type	Red / White build-in illumination
Max. Read Speed	20 pcs/s
Max. Speed	NA
Min. Resolution	1D code 0.05mm/ 2D code 0.13mm
Operating Distance	70mm
Environment	
Operating Humidity	20% ~ 95%, Non condensing
Operating Temperature	-20°C ~ +50°C
Storage Temperature	-30°C ~ +70°C
Structure	
Package Weight	NA
Packaging Dimensions	NA
Product Dimensions	50mm x 50mm x 28mm (Without cable)
Protection	IP65
Weight	< 150g
Power	
Power Consumption	< 2.0W
Power Supply	Support DC 5V ~ 24V wide range voltage input

# DS2100N – 2K Series

```
if (error.module.x == false)
  error.module.y = true
  return false
```

## OVERVIEW

The DS2100N is the ideal compact laser bar code scanner with complete connectivity and communication options for close reading applications. The DS2100N is available in distinct models offering on-board PROFINET, EtherNet/IP, and Ethernet TCP/IP communication protocols. With on-board Ethernet ports and switch capability, the DS2100N can be networked into PROFINET line or ring topologies for system redundancy. With EDS-AOP setup tools, configuring the EtherNet/IP fieldbus communication is simple and easy. Through PROFINET, the DS2100N can be configured via the modular structure contained in the GSDML file. Parameters are stored in the GSDML file, providing automatic configuration for failed or replaced devices. With an innovative rotating connector block, the DS2100N minimizes its mechanical dimensions offering a flexible form factor during installation. Embedded switches, dual PROFINET parts, and a rotating connector block are a few of the unique features that define the Datalogic DS2x00N family. Additionally, innovative software features provide easy and simple scanner installation and replacement. The DS2100N is equipped with the latest generation microprocessor powering an improved code reconstruction algorithm delivering superior performance on low quality codes or damaged labels.



## APPLICATIONS

Automatic warehouses

Factory automation

Automatic picking systems

Process control and packaging

Print & apply systems

## TECHNICAL SPECIFICATION

INDUSTRIAL LASER BAR CODE SCANNERS	DS2100N-12XX	DS2100N-13XX	DS2100N-14XX
Reading Distance (Min / Max)	50 – 300 mm (1.97 – 11.81 in)		
Max Resolution	up to 0.12mm (5 mils)		
Scan Rate	500 – 1000 scans/s		
Scan Pattern Type	Linear / Raster		
Aperture Angle	60 degrees		
Multilabel Reading	Up to 10 Codes in the same reading phase		
Reconstruction Code Technology	ACR Advanced Code Reconstruction		

<b>Readable Codes</b>	Code 12of5, Code39, Code93, Code128, EAN/UPC, EAN128, Codabar, Pharmacode, Plessey, ISBT128		
<b>Case Material</b>	Aluminum		
<b>Dimensions (Typical Value)</b>	84 x 68 x 34 mm (3.3 x 2.7 x 1.3 in)	104 x 69 x 38 mm (4.1 x 2.7 x 1.5 in)	104 x 86 x 38 mm (4.1 x 3.4 x 1.5 in)
<b>Weight</b>	330g ( 11.64 oz)	281 g (10 oz.)	308 g (10.9 oz.)
<b>Temperature Range</b>	0° – 45 °C (32 – 113 °F)		
<b>Voltage Supply/Power Consumption</b>	10–30 VDC; 4 W (average)		
<b>IP Rating</b>	IP65		
<b>Embedded Communication Interfaces</b>	Main port RS232/RS422/RS485 Auxiliary port RS232 ID-NET RS485 multidrop	EtherNet/IP , Ethernet TCP/IP Main port RS232/RS422/RS485 Auxiliary port RS232 ID-NET RS485 multidrop	PROFINET , Ethernet TCP/IP
<b>Digital Inputs</b>	2 Input (optocoupled, NPN/PNP)	2 Input (optocoupled, NPN/PNP)	Not Applicable / via PROFINET Fieldbus
<b>Digital Outputs</b>	2 Outputs (optocoupled)	2 Outputs (non-optocoupled)	Not Applicable / via PROFINET Fieldbus
<b>Fieldbus</b>	✓ with CBX , QLM external devices	Embedded Ethernet-IP / compatible with CBX , QLM external devices	Embedded Profinet with internal switch (2 Ports)
<b>ethernet</b>	✓ with CBX , QLM external devices	Embedded Ethernet TCP-IP / compatible with CBX , QLM external devices	Embedded PROFINET with internal switch (2 Ports)
<b>Device Programming</b>	Genius™ (Windows™ based) SW		

# DS2400N – 2K Series

mirror.mirror.x = false  
mirror.mirror.y = true

## OVERVIEW

The DS2400N is a compact laser scanner offering improved reading performance, excellent flexibility and full on-board connectivity options with PROFINET, EtherNet/IP and Ethernet TCP/IP protocols. The versatile DS2400N scanner is purpose-built for automatic warehousing and factory automation applications. The DS2400N combines best in class optics with the next generation of code reconstruction algorithms, delivering superior performance on low quality codes or damaged labels. With on-board Ethernet ports and switch capability, the DS2400N can be networked into PROFINET line or ring topologies for system redundancy. With EDS-AOP setup tools, configuring the EtherNet/IP fieldbus communication is simple and easy. Through PROFINET, the DS2400N can be configured via the modular structure contained in the GSDML file. Parameters are stored in the GSDML file, providing automatic configuration for failed or replaced devices. Thanks to an innovative rotating connector block, the DS2400N minimizes its mechanical dimensions offering a flexible form factor during installation. Embedding switches, dual PROFINET parts, and a rotating connector block are a few of the unique features that define the Datalogic DS2x00N family. Innovative software features provide easy and simple scanner installation and replacement.



## APPLICATIONS

Automatic warehouses

Factory automation

Automatic picking systems

Process control and packaging

Print & apply systems

## TECHNICAL SPECIFICATION

INDUSTRIAL LASER BAR CODE SCANNERS	DS2400N-X2XX	DS2400N-X3XX	DS2400N-X4XX
Reading Distance (Min / Max)	70 – 600 mm (2.76 – 23.62 in)		
Max Resolution	up to 0.12mm (5 mils)		
Scan Rate	500 – 1000 scans/s		
Scan Pattern Type	Linear / Raster		
Aperture Angle	60 degrees		
Multilabel Reading	Up to 10 Codes in the same reading phase		
Reconstruction Code Technology	ACR Advanced Code Reconstruction		

<b>Readable Codes</b>	Code 12of5, Code39, Code93, Code128, EAN/UPC, EAN128, Codabar, Pharmacode, Plessey, ISBT128		
<b>Case Material</b>	Aluminum		
<b>Dimensions (Typical Value)</b>	84 x 68 x 34 mm (3.3 x 2.7 x 1.3 in)	104 x 69 x 38 mm (4.1 x 2.7 x 1.5 in)	104 x 86 x 38 mm (4.1 x 3.4 x 1.5 in)
<b>Weight</b>	330g ( 11.64 oz)	281 g (10 oz.)	308 g (10.9 oz.)
<b>Temperature Range</b>	0° – 45 °C (32 – 113 °F)		
<b>Voltage Supply/Power Consumption</b>	10–30 VDC; 4 W (average)		
<b>IP Rating</b>	IP65		
<b>Embedded Communication Interfaces</b>	Main port RS232/RS422/RS485 Auxiliary port RS232 ID-NET RS485 multidrop	EtherNet/IP , Ethernet TCP/IP Main port RS232/RS422/RS485 Auxiliary port RS232 ID-NET RS485 multidrop	PROFINET , Ethernet TCP/IP
<b>Digital Inputs</b>	2 Input (optocoupled, NPN/PNP)	2 Input (optocoupled, NPN/PNP)	Not Applicable / via PROFINET Fieldbus
<b>Digital Outputs</b>	2 Outputs (optocoupled)	2 Outputs (non-optocoupled)	Not Applicable / via PROFINET Fieldbus
<b>Fieldbus</b>	✓ with CBX , QLM external devices	Embedded Ethernet-IP / compatible with CBX , QLM external devices	Embedded Profinet with internal switch (2 Ports)
<b>ethernet</b>	✓ with CBX , QLM external devices	Embedded Ethernet TCP-IP / compatible with CBX , QLM external devices	Embedded PROFINET with internal switch (2 Ports)
<b>Device Programming</b>	Genius™ (Windows™ based) SW		

# DS5100

## OVERVIEW

Datalogic announces the availability of the DS5100, the new flexible, powerful and compact laser scanner. The DS5100 is a cost effective solution satisfying the main identification needs of Automotive, Food & Beverage, Pharmaceutical and other manufacturing plants. The DS5100 offers a complete and flexible portfolio including Medium and Long Range models, Linear and Oscillating Mirror models. The unit boasts the DST™ (Digital Signal Technology) for stable and constant performance at any operative condition, a best in class ACR™ 4 reconstruction algorithm, and optimized reading recipes for flexible and outstanding reading performance on low quality and low contrast bar codes, damaged labels as well as at high skew angles. Superior reading performance together with a user selectable focus make the DS5100 the ideal solution to cover different applications along the manufacturing chain: Shop Floor, End of Line, Automated Warehouse, Intralogistics, Pallet Reading and more. Top Industrial grade IP65 protection class, subzero™ models\* down to -35°C and total ambient light immunity make the DS5100 ideal for harsh industrial environments, outdoor and frozen production facilities. For easy installation and flexible form factor the DS5100 is equipped with rotating connector block. For easy setup and maintenance the DS5100 has the intuitive X-PRESS™ interface and the Multilanguage Genius™ software tool. The embedded Multilanguage display improves scanner monitoring and diagnostics. The DS5100 offers complete connectivity and networking capabilities.



## APPLICATIONS

### Automotive:

Shop Floor, Work In Progress Control, Parts Traceability

### Food & Beverage, Pharmaceutical

Secondary Package Control, End of Line, Palletizing, Automated Warehouse, Tote Tray Identification, Automatic Picking Process Control, Intralogistics, Entry level Sorting and Shipping Process, Pallet Reading, Cold Storage and Outdoor applications (subzero models\*)

### General Manufacturing:

Shop Floor, Work In Progress Control, Parts Traceability, Secondary Package Control, End of Line, Palletizing, Shipping process, Automated Warehouse, Intralogistics.

## TECHNICAL SPECIFICATION

INDUSTRIAL LASER BAR CODE SCANNERS	DS5100-X2XX	DS5100-X3XX	DS5100-X4XX
Reading distance (min/max)	Medium range: 200 – 1000 mm Long Range: 300 – 1400 mm		
Max resolution	up to 0.2 mm (8mils)		
Scan rate	800 scan/s		
Scan rate	800 scan/s		
	Mechanically adjustable focus with locking		
Scan pattern type	Linear / Oscillating Mirror / Deflection Mirror		



<b>Aperture angle</b>	65 degrees		
<b>Multilabel reading</b>	Up to 10 Codes in the same reading phase		
<b>Bar code assignment technology</b>	Packtrack tracking technology on Long Range models DS5100-24xx only when configured in an EBC network (not available on Medium Range models)		
<b>Reconstruction code technology</b>	ACR4		
<b>Readable codes</b>	Code 2/5, Code39, Code93, Code128, EAN/UPC, EAN128, Codabar, Pharmacode, Plessey, ISBT128		
<b>Case material</b>	Aluminum		
<b>Dimensions (typical value)</b>	LIN: 101 x 85 x 42 mm (3.98 x 3.35 x 1.65 in) OM: 116.7 x 123.6 x 48.4 mm (4.60 x 4.86 x 1.90 in)	LIN: 101 x 104.2 x 42 mm (3.98 x 4.1 x 1.65 in) OM: 116.7 x 142.9 x 48.4 mm (4.60 x 56.26 x 1.90 in)	LIN: 117.75 x 104.6 x 42 mm (3.98 x 4.12 x 1.65 in) OM: 125.8 x 143.3 x 48.4 mm (4.95 x 5,64 x 1.90 in)
<b>Weight</b>	LIN: 580 g OM: 775 g	LIN: 520 g OM: 715 g	LIN: 550 g OM: 745 g
<b>Operating temperature</b>	0° to +50 °C (+32°F to +122 °F) Subzero version -35°C to +50°C (-31°F to +122 °F)*		
<b>Storage temperature</b>	-20° to +70° C (-4°F to +158 °F) Subzero version -35° to +70° C (-31°F to +158 °F)*		
<b>Ip rating</b>	IP65		
<b>Embedded communication interfaces</b>	Main port RS232/RS485-FD up to 115.2 Kbit/s Auxiliary port RS232 up to 115.2 kbps ID-NET™ RS485 multidrop port up to 1 Mbps	Main port RS232/RS485-FD up to 115.2 Kbit/s Auxiliary port RS232 up to 115.2 kbps ID-NET RS485 multidrop up to 1 Mbps EtherNet/IP, Modbus TCP, Ethernet TCP/IP, PROFINETIO Class A	PROFINET-IO Class B EBC Technology (only as slave of SC5000)
<b>Fieldbus/ethernet</b>	Fieldbus supported through CBX or QLM external device	Embedded EtherNet/IP, PROFINET-IO, Modbus TCP Other fieldbus supported through CBX or QLM external device	Embedded PROFINET-IO
<b>Digital inputs</b>	Test Input		
	2 Input (optocoupled, NPN/PNP)	2 Input (optocoupled, NPN/PNP)	1 Input (optocoupled, NPN/PNP)
<b>Digital outputs</b>	2 Outputs (optocoupled)		2 Outputs (non-optocoupled)
<b>Operating modes</b>	On-line, Serial On-line, Automatic, Continuous, Test, Verifier, Packtrack tracking technology on Long Range when configured in an EBC network		
<b>Display</b>	16 x 2 characters		
<b>Device programming</b>	Genius (Windows™ based) software tool Serial Host Mode Programming sequences XPRESS interface		

# Magellan 35xxHSi

mirror.module.x = false  
mirror.module.y = true  
mirror.module.z = false

## OVERVIEW

The Magellan™ 3550HSi series of scanners continue the Datalogic tradition of high performance imaging for the high-volume point-of-sale. By duplicating the speed and large field-of-view of laser scanners and expanding the capabilities of imaging, the 3550HSi scanners provide outstanding performance on hard-to-read bar codes and seamless reading of a wide variety of bar codes. This Magellan scanner enables both high speed sweep and presentation scanning techniques ensuring maximum productivity and ergonomic ease, even with truncated (shortened), out-of-spec or poorly printed codes.



## APPLICATIONS

Retail: Point of Sale

Mobile Marketing Capabilities

Age Verification,

2D Bar Codes

## TECHNICAL SPECIFICATION

DECODING CAPABILITY	
1D / Linear Codes	Autodiscriminates all standard 1D codes including GS1 DataBar™ linear codes.
2D Codes	Aztec Code; Data Matrix (ECC200 only); QR Code
Stacked Codes	GS1 DataBar Composites; GS1 DataBar Expanded Stacked; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; MicroPDF417; PDF417
Digital Watermarks	Optional support for Digimarc® Barcodes/GS1 DW Code
ELECTRICAL	
Power Requirements	AC Input: 100-240 VAC, 50-60 Hz DC Input: 5-12 V
Power Consumption	Operating (Maximum): 4 Watts; Operating (Nominal): 3 Watts Sleep Mode: 2.8 Watts
ENVIRONMENTAL	
Ambient Light	0 to 86,100 lux
ESD Protection (Air Discharge)	25 kV
Humidity (Non-Condensing)	5 – 95%
Particulate and Water Sealing	IP52
Temperature	Operating: 10 to 40 °C / 50 to 104 °F Storage/Transport: -40 to 70 °C / -40 to 158 °F
INTERFACES	
Interfaces	OEM (IBM) USB; RS-232; USB Keyboard, USB Com

<b>Auxiliary Ports</b>	Powered Type A USB (USB Com)
<b>OPTIONAL FEATURE</b>	
<b>EAS Features</b>	Checkpoint Systems: Integrated EAS hardware will work with Counterpoint IX and Evolve D11 models; Sensormatic: Good Read Acknowledgement
<b>Value Added Features</b>	Diagnostic Reporting; Host Download; Magellan ULE Scripting
<b>PHYSICAL CHARACTERISTICS</b>	
<b>Dimensions</b>	Magellan Model 3550HSi: Depth (Below Counter): 8.7 cm / 3.4 in Length: 15.2 cm / 6.0 in Width: 15.2 cm / 6.0 in
<b>Weight</b>	0.98 kg / 2.16 lb

# Matrix 120

## OVERVIEW

The Matrix 120 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 with the red light model is the first stationary industrial scanner in the market able to read Digimarc Barcode for added value decoding applications. The Matrix 120 features 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 a glass-free reading window, suitable for the Food and Beverage environment. Sulfur gas protection allows the use of Matrix 120 in tires applications through rough manufacturing, final finishing and inspection stations.



## 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 SPECIFICATION

OPTICAL FEATURES	
Sensor	CMOS sensor with Global Shutter/WVGA – 752×480 px CMOS sensor with Global Shutter/1.2 MP – 1280×960 px
Frame Rate	up to 57 full-frame/s (WVGA model) , up to 36 full-frame/s (1.2 MP model)
Illumination	White Internal Illuminator
Focusing System	Manual adjustment in three precalibrated positions (45, 70, 125mm – WVGA ; 45, 80, 125mm – 1.2 MP)
Polarizer filter	Available on dedicated models
Pitch	+/- 35°
Tilt	0° – 360°(within vertical FOV)
DECODING CAPABILITY	
Readable Symbolologies	Omnidirectional reading on any of the following codes: 1D Codes: all standard 1 dimensional symbologies 2D Codes: Data Matrix, QR Code, Micro QR, Maxicode, Aztec, Dot Code Postal Codes: Royal Mail, Japan Post, Planet, Postnet and many more Digimarc Barcode: DWCODE™
Reading capability	Omnidirectional on any code type Multilabel / multicode reading
Code Quality Metrics	1D CQ Standard: ISO/IEC 15416 2D CQ Standard: ISO/IEC 16022/18004, ISO/IEC 29158 (AIM-DPM), ISO/IEC 15415

**COMMUNICATIONS INTERFACE**

<b>Embedded communication interfaces</b>	Main RS-232 or RS-422 FD (2400 to 115200 bit/s) SER+ETH models: RS-232/RS-422/Ethernet 10/100 Mbit/s with protocols TCP/IP, UDP, FTP and Fieldbus PROFINET IO, Ethernet IP, Modbus TCP SER+USB models: RS-232/RS-422/USB 2.0 high speed (USB-CDC, USB-HID)
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**INPUTS AND OUTPUTS**

<b>Digital Inputs</b>	Two SW Programmable (PNP/NPN)
<b>Digital Outputs</b>	Two SW Programmable (PNP/NPN)

**USER INTERFACE AND PROGRAMMING**

<b>Operating Mode</b>	Continuous, One Shot, Phase mode
<b>Aiming System</b>	Laser indicator
<b>User Interface</b>	Green spot, X-PRESS™ Human Machine Interface, Beeper, X-PRESS™ Push Button, 6 LEDs (Power; Ready, Good, Trigger, Com, Status, Ethernet Network).
<b>Device Programming</b>	DL.CODE™ Windows-based software (programming via Ethernet or Serial Interface) with Javascript output formatter Serial Host Mode programming X-PRESS™ Human Machine Interface

# Matrix 210N™

## OVERVIEW

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 DLCode that tremendously improves the ease of setup and is intuitive for the use and maintenance of the reader.



## APPLICATIONS

### Electronic

- PCB board tracking
- Electronic products tracking

### Pharmaceutical & Chemical

- Pharmaceutical manufacturing, packaging
- Supply chain traceability

### OEM

- Chemical & Biomedical Analysis Machines
- Print & Apply systems

## TECHNICAL SPECIFICATION

	FIXED FOCUS MODELS	ELECTRONIC FOCUS CONTROL MODEL
Type (EN61496-1-2)	Straight optic 50 x 25 x 45 mm (1.97 x 0.98 x 1.77 in)	61 x 25 x 45 mm (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	

<b>Yag laser protection</b>	YES, with YAG cut filter accessory	
<b>Power supply</b>	Standard: 10 VDC to 30 VDC	
<b>Power consumption</b>	0.4 to 0.15 A, 4.5 W max	
<b>Sensor</b>	Image Resolution 780 x 480 WVGA – CMOS global shutter	
<b>Frame rate</b>	60 frames/s	
<b>Optical focus control</b>	Fixed	Variable, Electronic focus control
<b>Readable symbologies</b>	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	
<b>Embedded communication interfaces</b>	Ethernet 10/100: EtherNet/IP, PROFINET, TCP/IP, UDP, FTP, MODBUS TCP Serial RS232/RS422/RS485 up to 115.2 Kbit/s + Aux RS232	
<b>Humidity</b>	15 ... 95 % (no condensation)	
<b>Reader networking</b>	Datalogic ID-NET™	
<b>Connectivity modes</b>	Master/Slave, Ethernet point to point	
<b>Digital inputs</b>	2 opto-isolated. Polarity insensitive and SW Programmable.	
<b>Digital outputs</b>	2 SW programmable, opto-coupled	
<b>Programming method</b>	Windows™ based SW (DL.CODE™) via serial, USB and Ethernet	
<b>User interface</b>	X-PRESS™, Embedded Human Machine Interface Beeper, Push Button, 7 LEDs (Status, Comm. , Trigger, Good Read, Ready, Power on, Network)	
<b>Code quality metrics</b>	AIM DPM, ISO/IEC 15416	

# Matrix 220™

```
matrix220.use x = false
matrix220.use y = true
```

## OVERVIEW

The Matrix 220 imager is the most compact image based bar code reader for top performance with the highest flexibility. It is the ideal image reader for Electronics, Automotive, Packaging and Document Handling applications. The Matrix 220 imager is designed for superior performance thanks to a 1.2 MPixel high resolution sensor and a new multicore image processing platform. The innovative lighting solutions with an integrated flexible illumination system makes the Matrix 220 imager perfect for reading bar codes marked with DPM (Direct Part Marking). The Matrix 220 offers in a single model the polarized and diffused light options resulting in optimal illumination on any type of surface. The white, red and ultraviolet lights models are capable of solving a huge variety of applications with the best performance. Matrix 220 is the first stationary industrial scanner on the market supporting OPC UA protocol for Industry 4.0 communication and Digimarc Barcode technology for added value decoding applications. Matrix 220 is the first reader of its market segment to embed the High Dynamic Range (HDR) imaging. This improves image quality and contrast for higher code readability in applications with lower exposure time and faster line speeds. The Matrix 220 imager has the best ease of use because of the green and red spot lights, the X-Press™ button, the intuitive HMI and the DL.CODE™ configuration software, which has been improved with the Automatic Setup mode for a quick and easy code reading.



## APPLICATIONS

### Electronic

- Track and trace PCB board manufacturing
- Electronic components (e.g. chip)
- Electronic products tracking

### Automotive

- DPM code validation after marking
- Work-in-progress control
- Parts and assemblies traceability

### Packaging

- Primary packaging barcode reading
- Package traceability
- Food & Beverage

### Document Handling

- High speed applications

## TECHNICAL SPECIFICATION

	Standard Model	Direct Part Marking Model
Dimensions	78mm x 47mm x 38mm (3.07 x 1.85 x 1.50 in) Connector at 0° 57mm x 47mm x 58mm (2.63 x 1.85 x 2.30 in) Connector at 90°	
Weight	173 gr (6,1 oz)	
Case material	Aluminium case and plastic protective window cover	
Operating temperature	-10 to 50°C (14 to 122 °F)	
Storage temperature	-20 to 70 °C (-4 to 158 °F)	
Protection class	IP65	
Sulfur gas resistance	Available for all the models according to ISO EN 60068-2-43	
Esd safe	YES, with ESD Safe front cover accessory	



<b>Yag laser protection</b>	YES, with YAG cut filter accessory	
<b>Power supply</b>	All models except PoE: 10 VDC to 30 VDC PoE models: 48 VDC	
<b>Max Power Consumption</b>	All models except PoE: 4,2 Watt (10 VDC to 30 VDC) PoE models: 4,8 Watt (48 VDC)	
<b>Sensor</b>	Image resolution 1280 x 960 (1.2 megapixel) – 1/3" CMOS global shutter	
<b>Frame rate</b>	45 frames/s	
<b>Optical focus control</b>	Electronic focus control	
<b>Optical Models/Viewing Angles</b>	7 mm (38,3°), 12 mm (24,1°)	
<b>Reading Range</b>	STD-W, STD-W HP & STD-UV HP Minimum: 40 mm Maximum: 400 mm (7 mm lens), 600 mm (12 mm lens)	DPM-R & DPM-B Minimum: 40 mm Maximum: 300 mm DPM-R HP Minimum: 40 mm Maximum: 400 mm (7 mm lens), 600 mm (12 mm lens)
<b>Aiming System</b>	2 Red Aimer LEDs	
<b>Polarizing Filter</b>	NO	YES embedded
<b>High Dynamic Range (HDR)</b>	Available for all the models	
<b>Readable Symbolologies</b>	1D Codes: all standard 1 dimensional symbolologies 2D Codes: Data Matrix, QR Code, Micro QR, Maxicode, Aztec, Dot code Postal Codes: Royal Mail, Japan Post, Planet, Postnet and many more Digimarc Barcode: DWCODE™	
<b>Code Quality Metrics</b>	1D CQ Standard: ISO/IEC 15416 2D CQ Standard: ISO/IEC 16022/18004, ISO/IEC 29158 (AIM-DPM), ISO/IEC 15415	
<b>Embedded Communication Interfaces</b>	All models except PoE: – Ethernet 10/100 Mbit/s: TCP/IP, UDP, FTP and Fieldbus PROFINET IO, Ethernet IP, Modbus TCP – Serial RS-232/RS422FD up to 115.2 Kbit/s + Serial Aux RS-232 – OPC UA PoE models: – Ethernet 10/100 Mbit/s PoE Mode A and Mode B: TCP/IP, UDP, FTP and Fieldbus PROFINET IO, Ethernet IP, Modbus TCP – Serial Aux RS-232 – OPC UA	
<b>Reader Networking</b>	Datalogic ID-NET™	
<b>Connectivity Modes</b>	Pass Through, Master/Slave, Ethernet point to point	
<b>Digital Inputs</b>	All models except PoE: 2 inputs opto-coupled and polarity insensitive PoE models: 1 input opto-coupled and polarity insensitive	
<b>Digital Outputs</b>	3 Outputs (not available on PoE models): Configurable NPN, PNP, PP short-circuit protected Using CBX the first 2 outputs are opto-coupled	
<b>Warranty</b>	2-Year Factory Warranty	

# Matrix 320

```
matrix.module.x = false
matrix.module.y = True
matrix.module.z = True
```

## OVERVIEW

Matrix 320 image based code reader has been designed to EMPOWER TRACEABILITY applications providing benefits for End Users and Machine Builders. Matrix 320 brilliantly solves traceability applications in Intralogistics, Distribution, 3PL, Retail logistics and the Shop Floor. Matrix 320 offers a COMPLETE SOLUTION and TOP PERFORMANCE to achieve higher productivity at the best price/performance ratio with its superior 2MP sensor (1920 × 1080 pixels with a 16:9 form factor), achieving an extra large Field of View (FOV) on horizontal axis that competes against 3MP readers. Matrix 320 has excellent reading performance on label and high resolution DPM with a powerful Smart configurable lighting allowing 3 color options able to solve extremely challenging traceability applications. To boost productivity in Intralogistics and Logistics segments, hands-free operations enjoy higher performance with Matrix 320 snappy reactivity and its outstanding Depth of Field (DOF). Matrix 320 provides the highest market application flexibility with a modular design, a reduced number of models complemented by a complete portfolio of lenses, lightings, filters, and accessories. Embedded electronic focus for the Liquid Lens models dramatically reduces installation time and allows easy reconfiguration improving production flexibility in line with Industry 4.0 requirements. Matrix 320 is very easy to install with its improved integrated aiming system, X-Press button HMI and DLCode software powered by easy and intuitive autolearning/autosetup features.



## APPLICATIONS

### Manufacturing

- Direct Part Marking Reading
- Component and Part Traceability
- Wip Traceability (Automatic)
  - Print & Apply
- Secondary Packaging Traceability

### Manufacturing, Transportation and Logistics, Retail

- Inbound, Pallet Picking (Fork Lift)
- Print & Apply verification (Re-labelling)
  - Depalletizing, Part Traceability
- Order Fulfillment (Automatic, Manual)
- Palletizing (Automatic, Manual), Cage Preparation
- Pallet Traceability, Pallet Wrapping
- Retrieval for outbound (Forklift)

## TECHNICAL SPECIFICATION

	14 LED Illuminator Model	36 LED Illuminator Model
<b>Sensor</b>	Image resolution 2.0 Mpixel (1920 x 1080) 16:9 form factor – 1/3" CMOS global shutter	
<b>Frame Rate</b>	60 frames/s	
<b>LIQUID LENS MODELS</b>		
<b>Reading Range</b>	6mm: Minimum: 50 – Maximum: 550 mm 9mm: Minimum: 35 – Maximum: 1000 mm 16mm: Minimum: 70 – Maximum: 1500 mm	
<b>Optical Models (Viewing Angles)</b>	Liquid Lens 9 mm (34°), Liquid Lens 16 mm (20°)	
<b>Optical Focus Control</b>	Electronic focus control	
<b>Illumination</b>	Internal illuminators colors: Blue, Red, White lights (only for Liquid Lens 9 mm and 16 mm)	
<b>C-MOUNT MODELS</b>		
<b>Optical Models (Viewing Angles)</b>	C-Mount Lens 4mm(68°), 6mm(48°), 8mm(37°), 12mm(25°), 16mm(19°), 25mm(12°), 35mm(9°)	

<b>Optical Focus Control</b>	Manual focus adjustment	
<b>Illumination</b>	Internal illuminators colors: Blue, White, IR, UV	
<b>Polarizing Filter</b>	Available as front cover accessory	
<b>Code Quality Metrics</b>	1D CQ Standard: ISO/IEC 15416 2D CQ Standard: ISO/IEC 16022/18004, ISO/IEC 29158 (AIM-DPM), ISO/IEC 15415	
<b>Power Supply</b>	24 VDC ± 10%	
<b>Max Power Consumption</b>	0.42 A, 10 W max	0.62 A, 15 W max.
<b>Protection Class EN60529</b>	IP65 and IP67	
<b>Operating Temperature</b>	Liquid lens models: -0 to 45°C / 32 to 113 °F C-MOUNT models: -10 to 50°C / 14 to 122 °F	
<b>Storage Temperature</b>	-20 to 70 °C / -4 to 158 °F	
<b>Case Material</b>	Aluminium case and plastic protective window cover	
<b>Dimensions</b>	H 108.7 x W 54 x L 55.5 mm / 4.3 x 2.1 x 2.2 in Connector at 0° H 88 x W 54 x L 75.6 mm / 4.3 x 2.1 x 2.2 in Connector at 90°	H 115.5 x W 126 x L 70.3 mm (4.6 x 4.9 x 2.8 in) Connector at 0° H 101 x W 126 x L 90.7 mm (4.6 x 4.9 x 2.8 in) Connector at 90°
<b>Weight</b>	Liquid lens 14 LED illuminator: 380 gr (13.4oz)	Liquid lens 36 LED illuminator: 650 gr (22.9oz)
<b>Sulfur Gas Resistance</b>	Available for all models according to ISO EN 60068-2-43	
<b>Sulfur Gas Resistance</b>	Available for all models according to ISO EN 60068-2-43	
<b>ESD Safe</b>	Available as front cover accessory	Not Available
<b>YAG Laser Protection</b>	Available as filter accessory (compatible with ESD cover)	
<b>Embedded Communication Interfaces</b>	– Ethernet 10/100/1000 Mbit/s: TCP/IP, UDP, FTP, SFTP and Fieldbus PROFINET IO, Ethernet IP, Modbus TCP – Serial RS-232/RS-422FD up to 115.2 Kbit/s + Serial Aux RS-232 up to 115.2 Kbit/s – OPC UA	
<b>Reader Networking</b>	Datalogic ID-NET™	
<b>Connectivity Modess</b>	Pass Through, Master/Slave, Ethernet point to point	
<b>Digital Inputs</b>	2 inputs opto-coupled and polarity insensitive Max. Voltage 30 VDC Max. Input Current 10 mA	
<b>Digital Outputs</b>	3 Outputs: configurable NPN, PNP and PP short-circuit protected VOUT (ILOAD = 0 mA) max. 24 VDC VOUT (ILOAD = 100 mA) max. 3 VDC ILOAD max. 100mA Using CBX connection box the first 2 outputs are opto-coupled	
<b>Aiming System</b>	Laser cross red projection aiming	
<b>User Interface</b>	Configurable 360 degree multicolor visual feedback Green spot and Red spot LEDs X-PRESS™ Human Machine Interface Beeper, X-PRESS™ Push Button, 7 LEDs (Status, Communication , Trigger, Good Read, Ready, Power on, Network) Web Monitoring Interface	
<b>Device Programming</b>	DL.CODE™ Windows-based software (programming via Ethernet or Serial Interface) with Javascript output formatter Serial Host Mode programming; X-PRESS™ Human Machine Interface	
<b>Warranty</b>	2-Year Factory Warranty	

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**Россия** +7(495)268-04-70

**Казахстан** +7(727)345-47-04

**Беларусь** +(375)257-127-884

**Узбекистан** +998(71)205-18-59

**Киргизия** +996(312)96-26-47

эл.почта: [dob@nt-rt.ru](mailto:dob@nt-rt.ru) || сайт: <https://datasensor.nt-rt.ru/>