MATRIX 220™ XAI DPM

DATALOGIC

AI-Powered. Industry-Leading. Future-Ready.



The Matrix 220 XAI 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 and Packaging.

The new Matrix 220 XAI models take performance to an unprecedented level, successfully handling even the most challenging DPM codes. Thanks to the combination of the fastest Auto Setup routine, additional processing power, optimized software multithreading, and an innovative AI-based approach, the decoding process is accelerated by up to 2.5 times, ensuring reliable results even with variable DPM codes on any material, thus elevating efficiency in traceability through DPM codes.

The Matrix 220 XAI offers in a single model the polarized and diffused light options resulting in optimal illumination on any type of surface. The lights, red and blue, allow models to solve a huge variety of applications with the best perfomance.

The Matrix 220 XAI 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.
ESD and Anti-YAG protection are available as front cover accessories to enhance the product flexibility reducing the number of models and simplifying the stock management.

The IP67 and IP65 industrial grade rating and the operating temperature range from 0 to 45 °C / 32 to 113 °F guarantee the best quality and robustness in the Manufacturing Industry applications. The Matrix 220 XAI imager offers cost-effective communication options onboard: PROFINET/IO and ETHERNET/IP industrial fieldbus.

HIGHLIGHTS

- Maximum performance for fast and stable reading of any type of DPM, even with compromised quality
- Ultra-compact dimensions and rotating connectors for easy integration and installation in tight spaces
- Industrial grade electronic focus on all models for extreme reading flexibility
- New All-In-One DPM illuminator. Red and blue-light polarizing filter and diffused illuminator on one model for many applications needs and strong DPM reading performances
- DecodeX is the new software feature based on artificial intelligence, designed to ensure fast, precise, and highly effective readings in every situation
- OPC UA protocol for Industry 4.0
- Extreme industrial grade IP65 and IP67 ratings for harsh environments, 0 to 45 °C/32 to 113 °F operating temperature
- New flexible cables suitable for robotic arms applications
- ESD and Anti-YAG protection as front cover accessory for extreme flexibility and optimized stock

APPLICATIONS

Electronics
- Track and trace PCB board manufacturing
- Electronic components (e.g. chip)
- Electronic products tracking
- DPM barcode reading (on plastic, glass, metal)

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

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

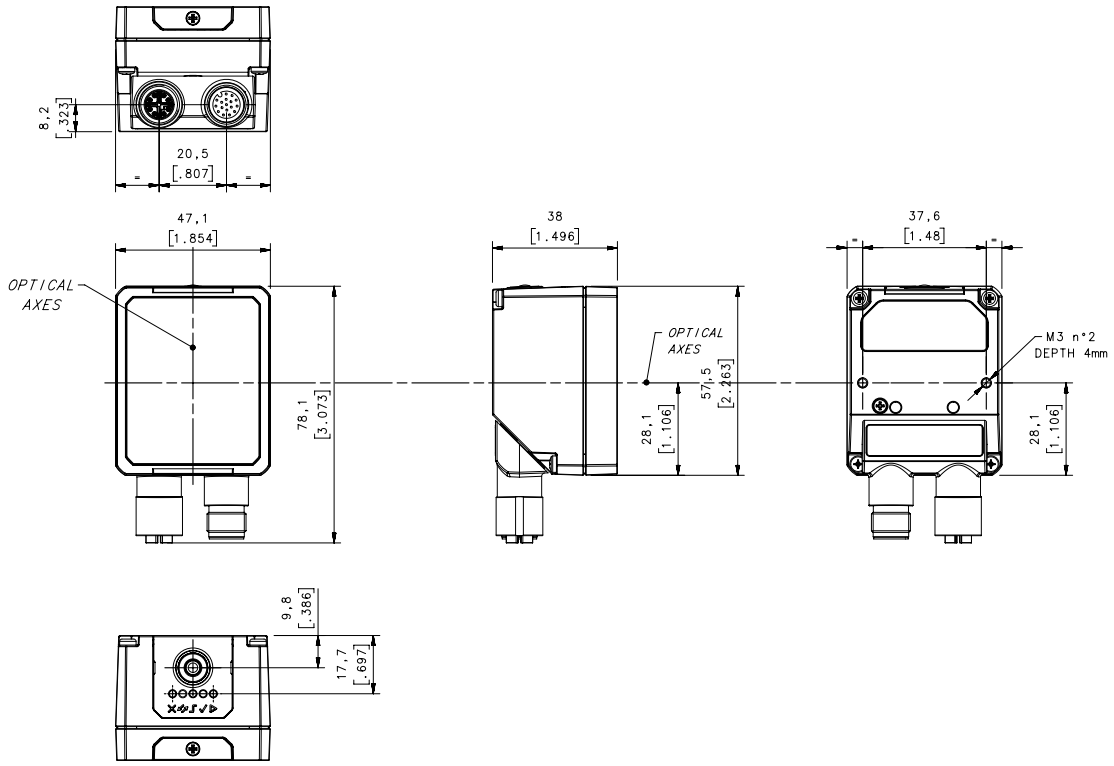
TECHNICAL DATA

	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	0 to 45° (32 to 113 °F)
Storage Temperature	-20 to 70 °C (-4 to 158 °F)
Protection Class	IP65, IP67
Sulfur gas resistance	Available for all the models according to ISO EN 60068-2-43
ESD Safe	YES, available as front cover accessory
YAG Laser Protection	YES, available as front cover accessory
ESD Safe and YAG Laser Protection	YES, available as front cover accessory
Flexible Cables	YES, available as accessories
Power Supply	10 VDC to 30 VDC
Max Power Consumption	5,1 Watt (10 VDC to 30 VDC)
Sensor	Image resolution 1280 x 960 (1.2 megapixel) - 1/3'' CMOS global shutter
Frame Rate	45 frames/s
Optical Focus Control	Electronic focus control
Optical Models/Viewing Angles	7 mm (38,3°), 12 mm (24,1°)
Reading Range	**DPM-R & DPM-B** Minimum: 40 mm Maximum: 300 mm **DPM-R HP (High speed applications)** Minimum: 40 mm Maximum: 400 mm (7 mm lens)
Illumination	Red light with polarizer and diffuser Red high power light with polarizer Blue light with polarizer and diffuser
Aiming System	2 Red Aimer LEDs
Polarizing Filter	YES embedded
High Dynamic Range (HDR)	Available for all the models
Readable Symbologies	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
Code Quality Metrics	1D CQ Standard: ISO/IEC 15416 2D CQ Standard: ISO/IEC 16022/18004, ISO/IEC 29158 (AIM-DPM), ISO/IEC 15415
Embedded Communication Interfaces	- 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
Reader Networking	Datalogic ID-NET™
Connectivity Modes	Pass Through, Master/Slave, Ethernet point to point
Digital Inputs	2 inputs opto-coupled and polarity insensitive
Digital Outputs	3 Outputs: Configurable NPN, PNP, PP short-circuit protected Using CBX the first 2 outputs are opto-coupled
User Interface	X-PRESS™ Human Machine Interface Beeper, Push Button, 7 LEDs (Status, Communication , Trigger, Good Read, Ready, Power on, Network) Green spot and Red spot LEDs Web Monitoring Interface
Device Programming	DL.CODE™ Windows-based software (programming via Ethernet or Serial Interface) with Javascript output formatter Host Mode programming X-PRESS™
Warranty	2-Year Factory Warranty

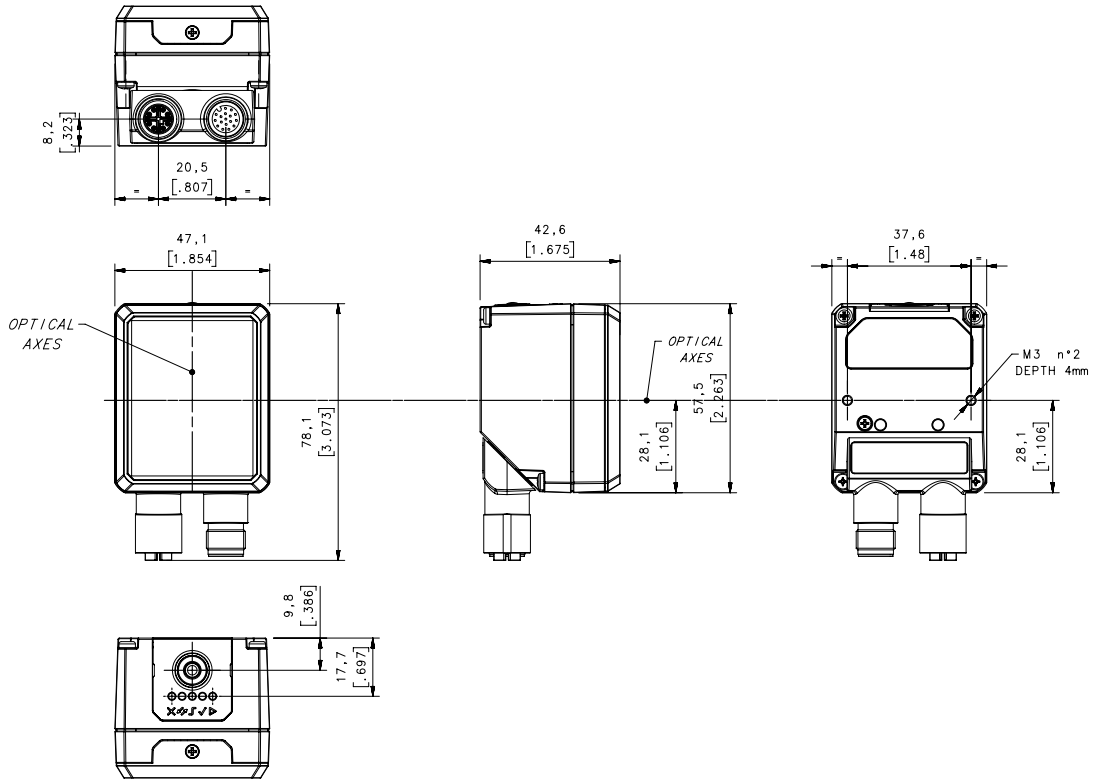
DIMENSIONS

Dimensions in mm

MATRIX 220 - STRAIGHT CONNECTORS



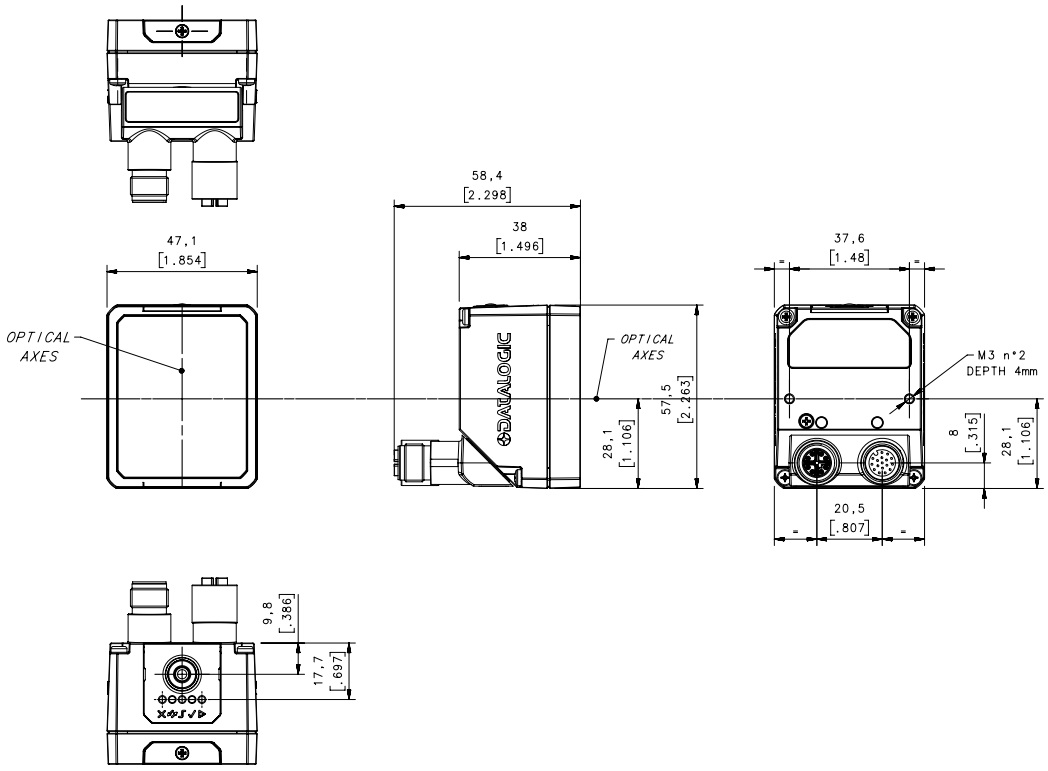
MATRIX 220 - STRAIGHT CONNECTORS & ESD/YAG COVER



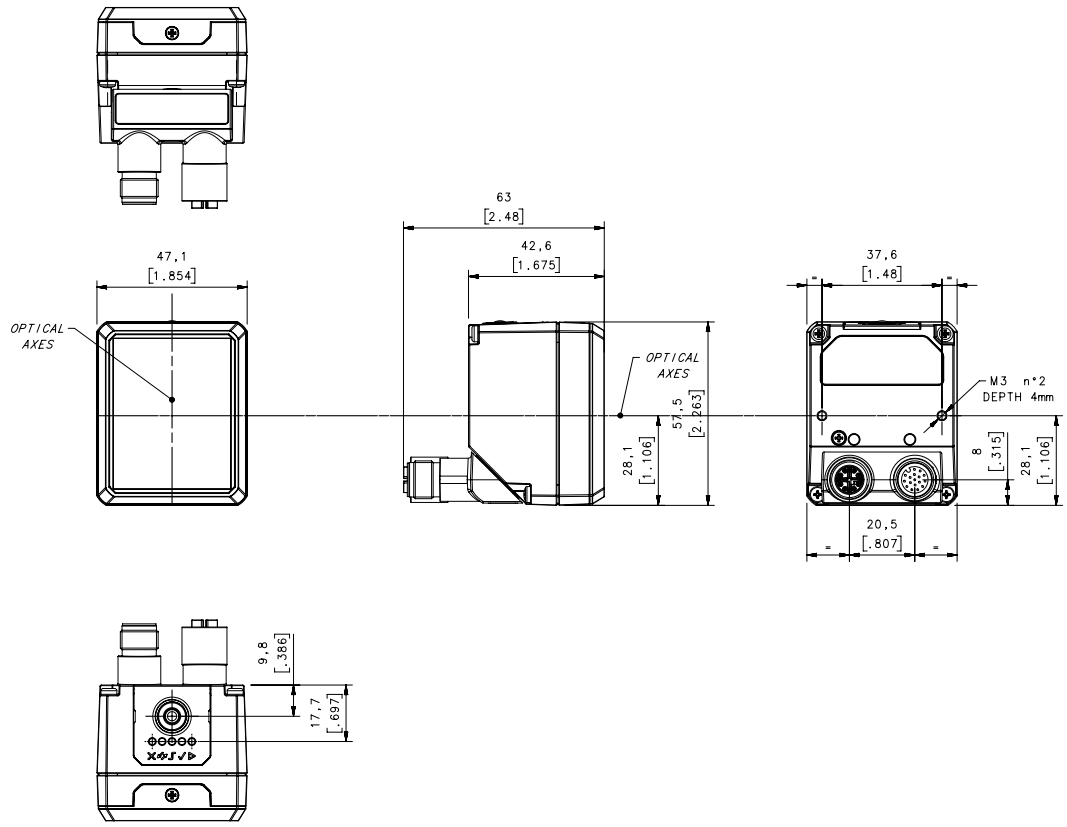
DIMENSIONS

Dimensions in mm

MATRIX 220 - 90° CONNECTORS

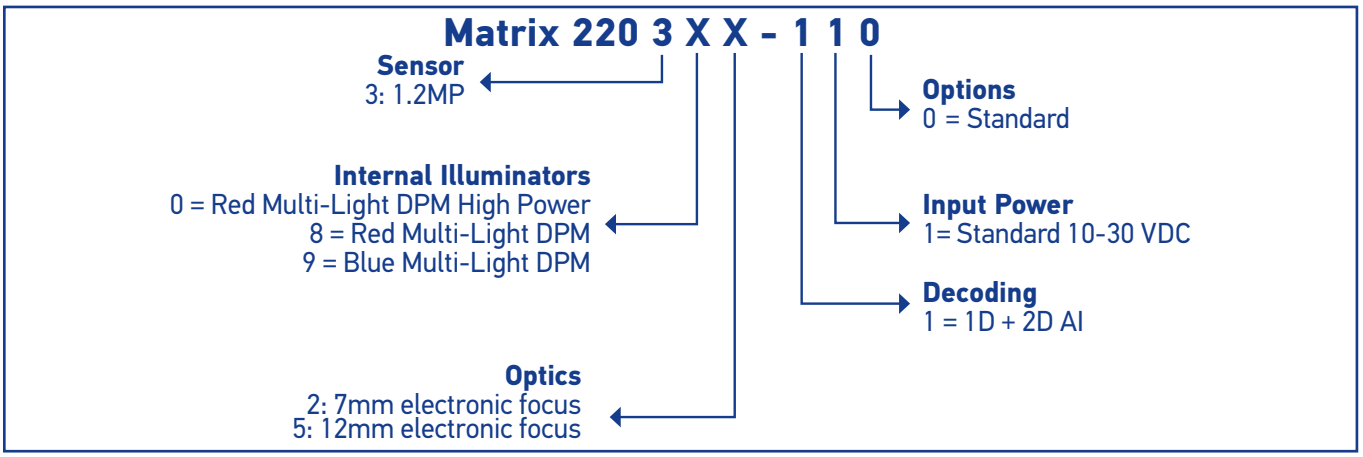


MATRIX 220 - 90° CONNECTORS & ESD/YAG COVER



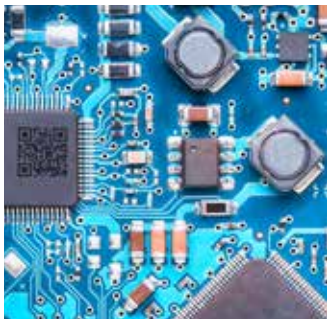
MODELS

P/N	DESCRIPTION	OPTICAL MODELS					CONNECTORS
		7 mm	12 mm	DPM-RED	DPM-BLUE	DPM-RED-HP	M12 17P + ETH
937900063	MATRIX 220 385-110 XAI DPM-R 12MM		x	x			x
937900064	MATRIX 220 382-110 XAI DPM-R 7MM	x		x			x
937900065	MATRIX 220 395-110 XAI DPM-B 12MM		x		x		x
937900066	MATRIX 220 302-110 XAI DPM-R 7MM HP	x				x	x
937900070	MATRIX 220 385-110 XAI DPM-R 12MM ESD		x	x			x
937900071	MATRIX 220 382-110 XAI DPM-R 7MM ESD	x		x			x
937900072	MATRIX 220 395-110 XAI DPM-B 12MM ESD		x		x		x
937900073	MATRIX 220 302-110 XAI DPM-R 7MM HP ESD	x				x	x
937900074	MATRIX 220 392-110 XAI DPM-B 7MM ESD	x			x		x
937900075	MATRIX 220 305-110 XAI DPM-R 12MM HP ESD		x	x		x	x
937900076	MATRIX 220 305-110 XAI DPM-R 12MM HP		x	x		x	x



ACCESSORIES

CATEGORY	PART NUMBER	DESCRIPTION
	93A050058	M12-IP67 Cable To CBX or QL (1M)
	93A050059	M12-IP67 Cable To CBX or QL (3M)
	93A050060	M12-IP67 Cable To CBX or QL (5M)
	93A050116	M12-IP67 17p Flexible Cable To CBX or QL (1M)*
	93A050117	M12-IP67 17p Flexible Cable To CBX or QL (3M)*
	93A050118	M12-IP67 17p Flexible Cable To CBX or QL (5M)*
	93A050122	M12-IP67 GIGA Ethernet Cable X-Coded (1M)
	93A050123	M12-IP67 GIGA Ethernet Cable X-Coded (3M)
Cables	93A050124	M12-IP67 GIGA Ethernet Cable X-Coded (5M)
	95A900058	CV-N1-48-F-05 GigETH-X, Drag chain, 5m
	95A900059	CV-N1-48-F-10 GigETH-X, Drag chain, 10m
	95A900060	CV-N1-48-F-15 GigETH-X, Drag chain, 15m
	93A050128	Adapter Cable GIGA Ethernet X-Coded M12 to RJ45
	93A050129	Adapter Cable GIGA Ethernet X-Coded to Ethernet D-Coded
	93A050076	CAB-GD03 M12 F/L 3M
	93A050077	CAB-GD05 M12 F/L 5M
	93A050078	CAB-GD10 M12 F/L 10M
	93ACC0227	ESD Safe Window Cover M220
Front covers	93ACC0228	YAG Cut Filter Window Cover M220
	93ACC0229	ESD Safe YAG Cut Filter Win Cover M220
Bracket	93ACC0230	BK-22-000 Fixing Bracket M220 Body









** Suitable for robotic arms applications*

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