MATRIX 300N™ 2MP

◆DATALOGIC

The Matrix 300N 2MP image based reader enriches the Matrix 300N product line thanks to its outstanding performance and smallest form factor in the industry.
With a 2 Megapixel resolution sensor, the liquid lens for electronic adjustable focus and with a new integrated high power illuminator the Matrix 300N 2MP is the ideal solution for Automotive, Electronics, Intralogistics and Packaging applications.

The electronic focus control on both 9mm and 16mm focal length models provides extreme reading flexibility and easy remote focus change.
The new high power 10 LEDs illuminator is suitable for long range reading. The multi LED-chain illuminator with diffuser is really effective in Direct Part Marking (DPM) code reading on flat surface with machining flaw. The high power polarized illuminator is the ideal solution for reading on reflective or glossy surfaces, and allows extreme mounting flexibility since the reader can be mounted 90° to the target surface.

The Continuous High Power Mode (CHPM) lighting option is now available to eliminate the flickering effect avoiding to disturb the operator when the reader is used in Presentation Mode.
With its extremely compact dimensions and rotating connectors, the Matrix 300N 2MP can be easily integrated into the tightest spaces.
The IP65 and IP67 industrial grade rating and the operating temperature range from 0 to 45 ºC / 32 to 113 ºF guarantee the best quality and robustness in the Manufacturing Industry applications.
It offers cost-effective communication options, providing onboard PROFINET IO and Ethernet/IP industrial fieldbus and eliminating external communication boxes or converters.
The Matrix 300N 2MP imager guarantee unmatched ease of use and setup thanks to the green and red spot lights, the X-Press™ button, the intuitive HMI, the aiming-system and the DL.CODE™ configuration software which has been improved with the Automatic Setup mode for a quick and easy code reading.

With its outstanding performances the Matrix 300N 2MPixel empowers the Matrix 300N product line delivering a high performance/price ratio offer in the Datalogic portfolio.

HIGHLIGHTS

- 2 Megapixel sensor and high power illuminators for long range reading distances
- Liquid lens for electronic adjustable focus on both 9 mm and 16 mm focal length models
- Capability to read 1.5 mils DataMatrix
- Multi LED-Chains Illuminator with diffuser for DPM applications and high-power polarized illuminator for reflecting surfaces
- Continuous High-Power Mode (CHPM) to eliminate the flickering effect
- Compact dimensions and rotating connectors for easy integration and installation in tight space
- Laser aiming system on all models
- Onboard Ethernet/IP and PROFINET IO for industrial connectivity
- Extreme industrial grade IP65 and IP67 ratings for harsh environments, 0 to 45 ºC/32 to 113 ºF operating temperature
- Easy of use and setup thanks to the green and red spot lights, the X-Press™ button, the intuitive HMI, the aiming-system and the DL.CODE™ configuration software

APPLICATIONS

Automotive
- Parts and Assemblies Traceability
- DPM Code Quality Verification and Trending After Marking
- WIP Traceability and Control

Electronics
- Parts Traceability and Control
- High Resolution Codes Reading
- WIP Control and Tracking
- DPM Code Quality Verification and Trending After Marking

Intralogistics
- Carton Reading
- Reusable Totes Traceability
- Automated Warehouse
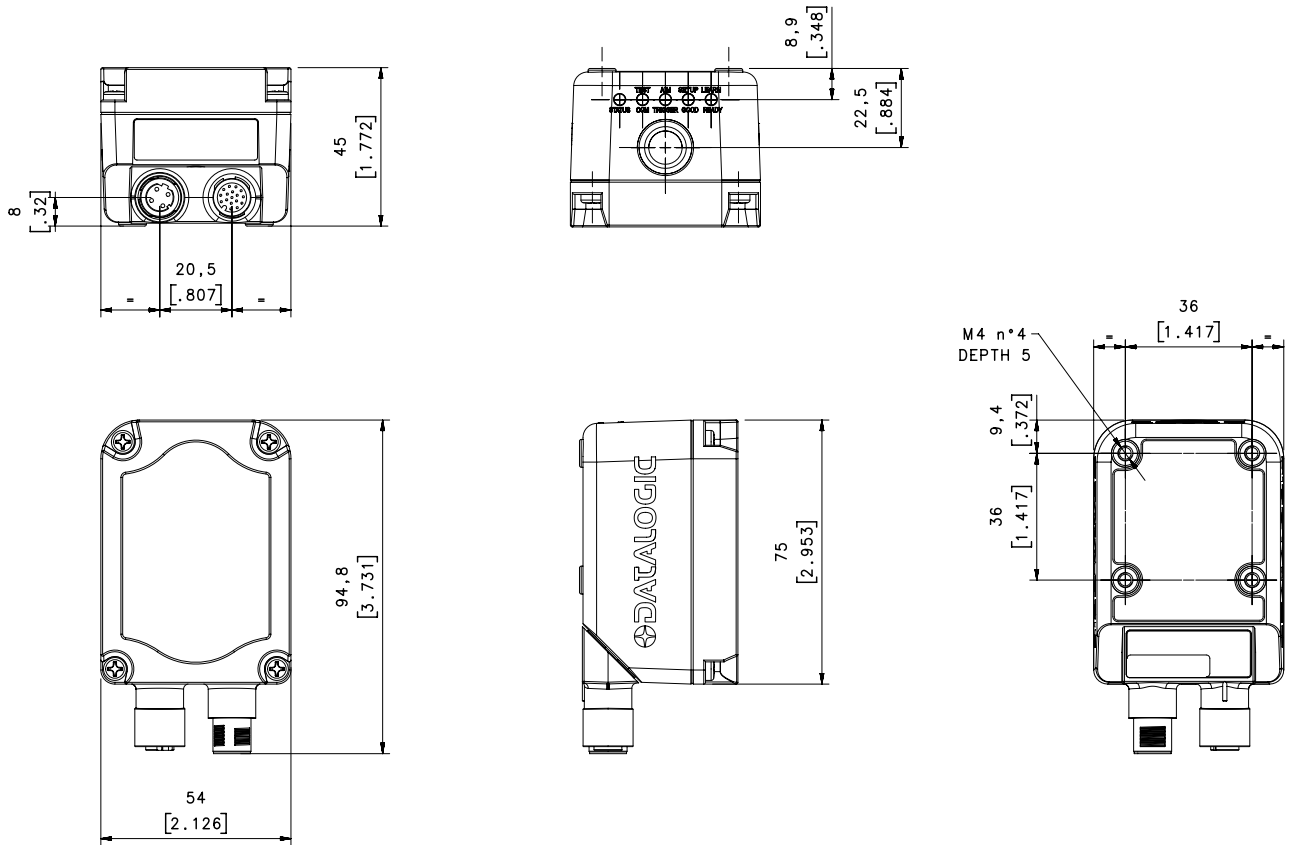- Automatic Picking Process Control

Packaging
- Label Print & Check
- Secondary Packaging Traceability
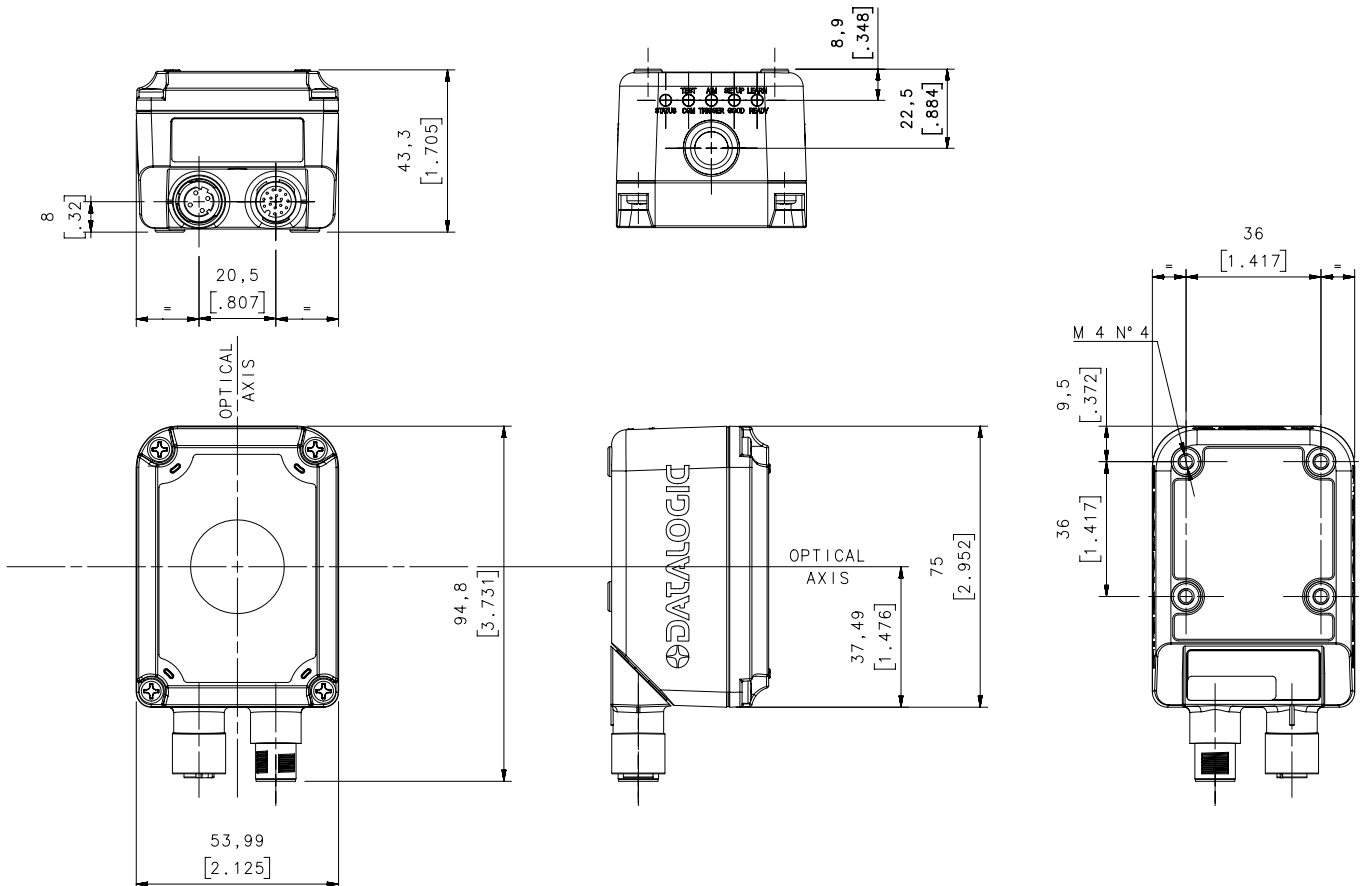- End of Line Palletizing

TECHNICAL DATA

	Standard Model	Polarized Model	Diffused Model
Dimensions	95 (height) x 54 (width) x 45 (length) mm (3.7 x 2.1 x 1.8 in.) Connector at 0° 75 (h) x 54 (w) x 64 (l) mm (3.0 x 2.1 x 2.5 in.) Connector at 90°		95 (h) x 54 (w) x 43 (l) mm (3.7 x 2.1 x 1.7 in.) Connector at 0° 75 (h) x 54 (w) x 62 (l) mm (3.0 x 2.1 x 2.4 in.) Connector at 90°
Weight	9 mm lens: 250 g 16 mm lens: 273 g	9 mm lens: 274 g	9 and 16 mm lenses: 236 g
Case Material	Aluminum case and black aluminum protective window cover		Aluminum case and plastic protective window cover
Operating Temperature	0 to 45 °C (32 to 113 °F)		
Storage Temperature	-20 to 70 °C (-4 to 158 °F)		
IP Protection Grade	IP65 and IP67		
Power supply	10 - 30 VDC		
Max power consumption	6 Watt (10 - 30 VDC; 0.7 - 0.2 A)		
Sensor	Image resolution 1600 x 1200 (2 Megapixel) - CMOS		
Frame rate	45 frame/s		
Optical focus control	Electronic Focus Control (with Liquid Lens)		
Optical models/Viewing angles	9 mm (Horizontal: 44°; Vertical: 34°; Diagonal: 54°) 16 mm (Horizontal: 25°; Vertical: 19°; Diagonal: 31°)		
Typical Working Distance Range	9 mm lens: 20 – 650 mm 16 mm lens: 40 – 1200 mm	9 mm lens: 20 – 350 mm	9 mm lens: 20 – 350 mm 16 mm lens: 40 – 450 mm
Illumination	10 High Power White and Red LEDs (Wide and Medium Angle)	10 High Power Red LEDs (Wide Angle)	Red Diffused Multi-LED Chain (Wide Angle)
Aiming system	2 Red Laser Pointers		
Polarizing filter	NO	YES	NO
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: Ethernet IP, TCP/IP, UDP, FTP, Modbus TCP, PROFINET IO Serial RS232/RS422FD up to 115.2 Kbit/s + Aux RS232		
Reader networking	Datalogic ID-NET™		
Connectivity modes	Pass Through, Master/Slave, Ethernet point to point		
Digital inputs	2 optocoupled and polarity insensitive		
Digital outputs	3 Outputs: Configurable NPN, PNP, PP short-circuit protected (using CBX the first 2 outputs are optocoupled)		
User interface	X-PRESS™ Human Machine Interface Beeper, Programmable 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™ Human Machine Interface		

DIMENSIONS

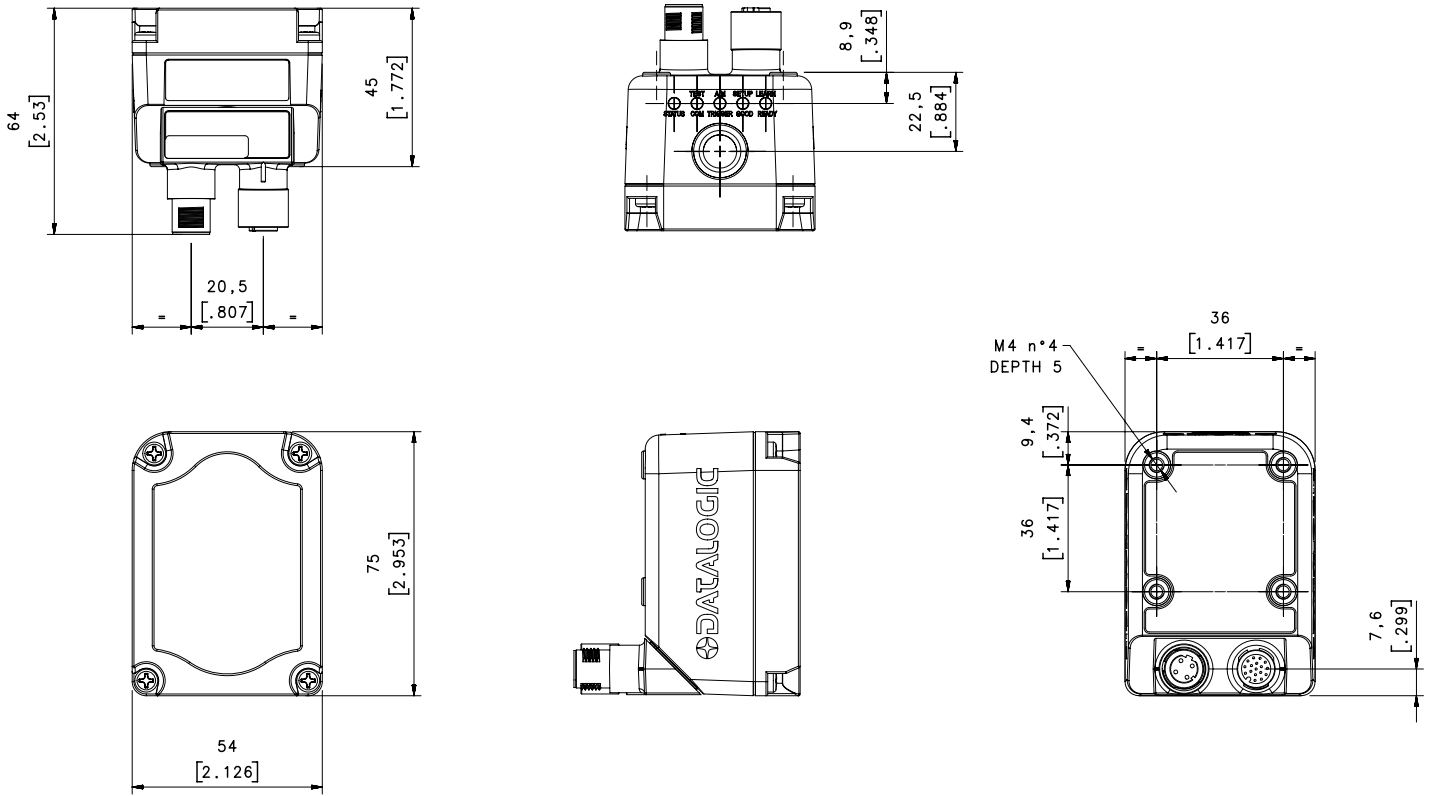## MATRIX 300N 2MP – STANDARD & POLARIZED MODELS WITH STRAIGHT CONNECTORS

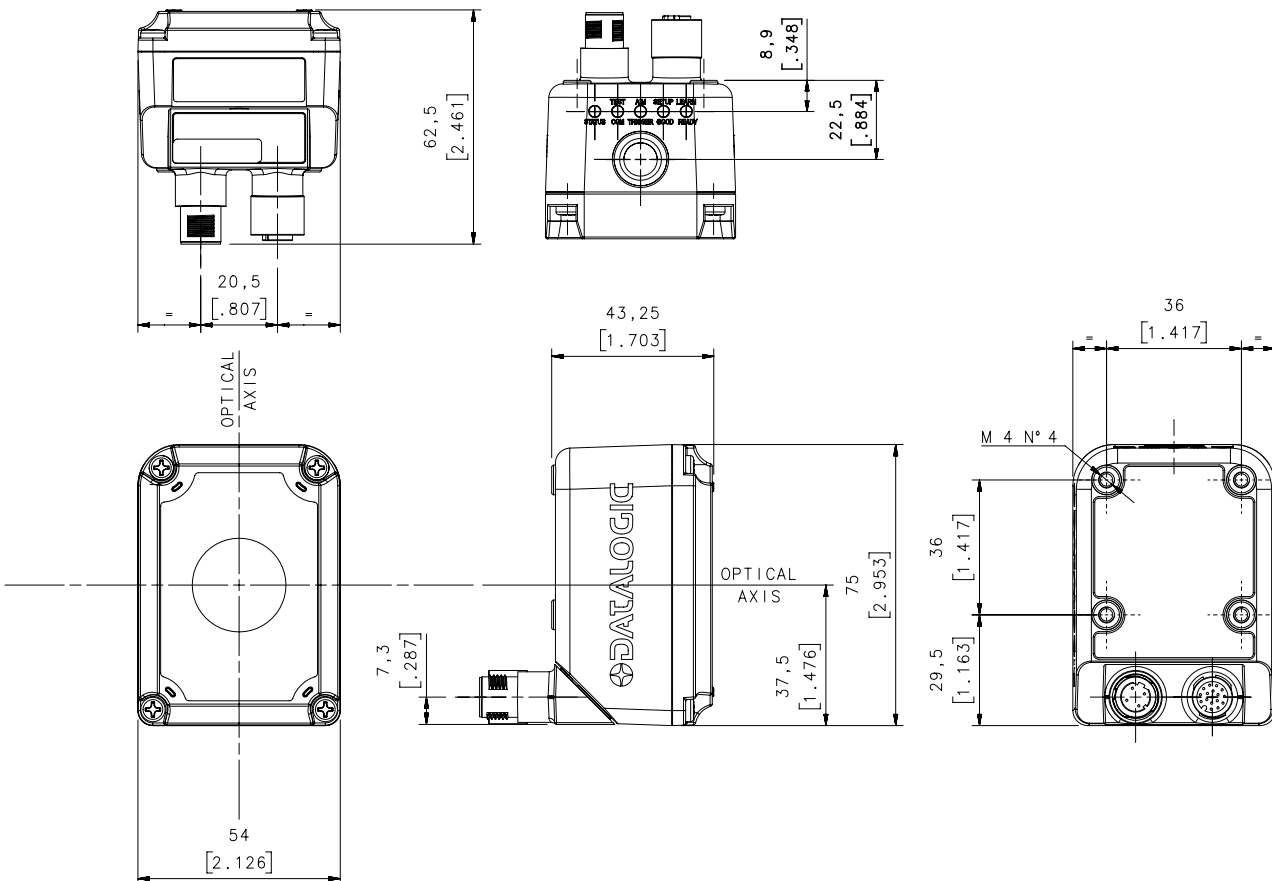## MATRIX 300N 2MP – DIFFUSED MODELS WITH STRAIGHT CONNECTORS

DIMENSIONS

MATRIX 300N 2MP – STANDARD & POLARIZED MODELS WITH 90° CONNECTORS

MATRIX 300N 2MP – DIFFUSED MODELS WITH 90° CONNECTORS

MODELS

MODELS DESCRIPTION	PART NUMBER	ILLUMINATOR						LENS	
		WIDE ANGLE RED	WIDE ANGLE WHITE	WIDE ANGLE RED DIFFUSED	MEDIUM ANGLE RED	MEDIUM ANGLE WHITE	WIDE ANGLE RED POLARIZED	9 mm	16 mm
MATRIX 300N 712-010 2MP LQL-9 R-WD STD	937600167	X						X	
MATRIX 300N 712-015 2MP LQL-9 R-WD PLZ	937600171	X					X	X	
MATRIX 300N 752-010 2MP LQL-9 W-WD STD	937600172		X					X	
MATRIX 300N 772-010 2MP LQL-9 R-WD DIF	937600173			X				X	
MATRIX 300N 726-010 2MP LQL-16 R-MD STD	937600177				X				X
MATRIX 300N 796-010 2MP LQL-16 W-MD STD	937600182					X			X
MATRIX 300N 776-010 2MP LQL-16 R-WD DIF	937600183			X					X

Matrix 300N 7XX-0XX

Internal Illuminators
1 = Wide Angle Red Standard
2 = Medium Angle Red
5 = Wide Angle White
7 = Wide Angle Red Diffused
9 = Medium Angle White

Lens Type
2 = 9mm liquid lens
6 = 16mm liquid lens

Options
0 = Standard
5 = Polarizer

Input power
1 = Standard 10 - 30 VDC

CONFIGURATION	LIGHTING SECTOR
Model: Standard – 9 mm - Red Light – Wide Angle	
1	Even Alternate Chain + Odd Alternate Chain
2	Even Alternate Chain
3	Odd Alternate Chain

CONFIGURATION	LIGHTING SECTOR
Model: Polarized – 9 mm - Red Light – Wide Angle	
1	Even Alternate Chain + Odd Alternate Chain
2	Even Alternate Chain
3	Odd Alternate Chain

CONFIGURATION	LIGHTING SECTOR
Model: Standard – 9 mm - White Light – Wide Angle	
1	Even Alternate Chain + Odd Alternate Chain
2	Even Alternate Chain
3	Odd Alternate Chain

CONFIGURATION	LIGHTING SECTOR
Model: Diffused – 9/16 mm – Red Light – Wide Angle	
1	Top-Left + Top-Right + Bottom-Left + Bottom-Right (Central LED Group)
2	Top-Left (Central LED Group)
3	Top-Right (Central LED Group)
4	Bottom-Left (Central LED Group)
5	Bottom-Right (Central LED Group)
6	Top + Bottom + Left + Right (External LED Group)
7	Top (External LED Group)
8	Bottom (External LED Group)
9	Left (External LED Group)
10	Right (External LED Group)

CONFIGURATION	LIGHTING SECTOR
Model: Standard – 16 mm - Red Light – Medium Angle	
1	Even Alternate Chain + Odd Alternate Chain
2	Even Alternate Chain
3	Odd Alternate Chain

CONFIGURATION	LIGHTING SECTOR
Model: Standard – 16 mm - White Light – Medium Angle	
1	Even Alternate Chain + Odd Alternate Chain
2	Even Alternate Chain
3	Odd Alternate Chain

ACCESSORIES

CATEGORY	PART NUMBER	DESCRIPTION
Cables	93A050058	CAB-DS01-S M12-IP67 Cable To CBX or QL (1M)
	93A050059	CAB-DS03-S M12-IP67 Cable To CBX or QL (3M)
	93A050060	CAB-DS05-S M12-IP67 Cable To CBX or QL (5M)
	93A051346	CAB-ETH-M01 M12-IP67 Ethernet Cable (1M)
	93A051347	CAB-ETH-M03 M12-IP67 Ethernet Cable (3M)
	93A051348	CAB-ETH-M05 M12-IP67 Ethernet Cable (5M)
	93A050057	CBL-1534.02 Adapter Cable Ethernet M12 to RJ45
Bracket	93ACC0201	BK-30-010 Fixing Bracket Kit*

(*) Included inside the product box

DATALOGIC PRODUCT OFFERING

Sensors   Hand Held scanners   Mobile Computers   Laser Marking Systems   Safety Laser Scanner   Vision Systems   Stationary Industrial Scanners   Safety Light Curtains