

# Matrix 400™

## Compact 2D Imager

### Highlights

Matrix 400™ is an industrial compact 2D reader that combines image capturing, decoding and communicating in a single compact and versatile product.

#### • EXCELLENT PERFORMANCE

The two sensor versions (**SXGA** and **UXGA**), combined with **powerful internal lightings** and **C-Mount lenses**, guarantee accuracy in identifying and verifying codes with different resolutions at various distances. **Powerful proprietary decoding libraries** provide the Matrix 400™ with excellent performance even on damaged and low quality codes. Higher frame rates can be achieved using the powerful **Region Of Interest Windowing**, satisfying applications with high throughput.

#### • EASE OF SETUP

**X-PRESS™** makes installation and maintenance easier than ever thanks to a five LED bar-graph and a multi-function key that sets relevant functions such as Focus (**Blue Diamonds™** System), Test Mode (for bar graph activation), Setup (for automatic imager calibration), Learn (for automatic code setting).

#### • EASE OF USE

**Run Time Self-Tuning (RTST)** increases the Matrix's flexibility by automatically setting the reader in run time, and a **Green Spot** provides immediate Good Read feedback.

#### • FLEXIBILITY

**Modular design**, focus adjustable **C-Mount lenses** and a **large set of accessories** provide high flexibility in covering demanding application.

#### • CONNECTIVITY

Embedded high speed **ID-NET™** communication interface allows efficient data collection and simplify network wiring

#### • VERSATILITY

Matrix 400™ features both **DPM (Direct Part Marked) reading capability** and **Code Quality Verification** in the same product accordingly to ISO and IAQG standards.

#### • INDUSTRIAL STRENGTH

With its **rugged construction**, **IP67** protections and **50°C** max operating temperature, Matrix 400™ is the best product for industrial application.

**2MP  
Sensor**

Large FOV



Adjustable Focus

**Xpress  
Interface**

Ease of Setup



Ease Aim & Focus



### Features

- 1,3 (SXGA) & 2,0 (UXGA) MPixels models
- Adjustable focus through C-Mount lenses
- Outstanding decoding capability on 1D, 2D, Stacked, Postal symbologies
- Excellent Performance on DPM Application
- Region Of Interest Windowing for higher frame rate
- Blue Diamonds™ aiming and focusing system
- X-PRESS™ for easy and intuitive setup
- Run Time Self Tuning for higher flexibility
- ID-NET™ embedded high speed connectivity
- Code Quality Verification Capability
- Ethernet Connectivity

### Applications

- **Automotive**
  - DPM Reading and Verification
- **Electronics**
  - Large PCB Board Tracking
  - Electronics Product Tracking
- **Distribution & Retail Industry**
  - Presentation Scanner
  - Small Objects Sorting
  - Warehouse application
- **Medical & Pharmaceutical**
  - Medical Devices Traceability
  - Pharmaceutical and Medicine Manufacturing
  - Chemical & Biomedical Analysis
- **Food & Beverage**
  - Work in Progress Traceability
  - Code Quality Control

# Matrix 400™

## Specifications

## Applications

### Physical Characteristics

DIMENSIONS	123 x 60,5 x 87 mm (4.84 x 2.38 x 3.42 in) with protective lens cover
WEIGHT	482 g (17 oz.) with lens and internal illuminator
CASE MATERIAL	Aluminum
OPERATING TEMPERATURE	0 to 50 °C (32 to 122 °F)
STORAGE TEMPERATURE	-20 to 70 °C (-4 to 158 °F)
HUMIDITY	90% non condensing
PROTECTION CLASS	IP67

### Performance

	Matrix 400 -4xx-xxx	Matrix 400 -6xx-xxx
OPTICAL FEATURES	SXGA (1280 x 1024)	UXGA (1600 x 1200)
	CMOS sensor	CCD sensor
FRAME RATE	27 frame/s	15 frame/s
READING ANGLES	Max. Pitch: ± 35°; Tilt: 0-360°	
READABLE SYMBOLOGIES	1D and stacked: I 2/5, Code 128, Code 39, EAN/UPC, PDF417, Micro PDF417, Pharmacode, GS1 DATABAR (RSS) family, and many more	
	2D: DataMatrix, QR Code, Maxicode, Aztec, Microglyph	
	Postal: Royal Mail, Japan Post, Planet, Postnet and many more	
COMMUNICATION INTERFACE	RS232 + RS232/RS422/RS485 up to 115.2 Kbit/s	
	Ethernet IEEE 802.3 10 Base T and IEEE 802.3U 100 BaseTx compliant	
	ID-NET™ port up to 1 Mbps	
CONNECTIVITY MODES	Pass Through, Master/Slave, Multiplexer, ETH point to point	
DIGITAL INPUTS	Two SW programmable, optocoupled and polarity insensitive	
DIGITAL OUTPUTS	Two SW programmable optocoupled	
PROGRAMMING METHOD	X-PRESS™ Human Machine Interface	
	Windows™ based SW (VisiSet™) via serial or Ethernet link	
USER INTERFACE	X-PRESS™ Human Machine Interface	
	Beeper, Programmable Push Button, LEDs (Status, Com, Trigger, Good, Ready, Power on, Network presence, Good read Spot)	
CODE QUALITY VERIFICATION	AS9132A (Data Matrix Quality Requirements for Parts Marking), ISO/IEC 15415 (Print quality test specifications for 2D codes), ISO/IEC 15416 (Print quality test specifications for linear codes), ISO/IEC 16022 (DataMatrix), ISO/IEC 18004 (QR-Code)	
	AIM DPM (Global Direct Part Mark Quality Guideline)	

### Electrical Characteristics

POWER SUPPLY	10 to 30 VDC
POWER CONSUMPTION	8 W max; 5W typical

### Models & Accessories

	P/N	Description
MODELS	937401002	MATRIX 400 400-000 SXGA-Base-CMount-Serial
	937401003	MATRIX 400 400-010 SXGA-Base -CMount-Ethernet
	937401004	MATRIX 400 600-000 UXGA-Base-CMount-Serial
	937401005	MATRIX 400 600-010 UXGA-Base-CMount-Ethernet
INTERNAL LIGHTING SYSTEMS	93A401019	LT-001 INTERNAL LT RED NARROW ANGLE
	93A401020	LT-002 INTERNAL LT RED WIDE ANGLE
	94A401021	LT-003 INTERNAL LT NARROW ANGLE
	93A401022	LT-004 INTERNAL LT WHITE WIDE ANGLE
	93A401024	LT-006 INTERNAL LT RED SUPERNARROW ANGLE
	C-MOUNT LENSES	93ACC1793
93ACC1794		LNS-1109 9MM C-MOUNT LENS
93ACC1795		LNS-1112 12.5MM C-MOUNT LENS
93ACC1796		LNS-1116 16MM C-MOUNT LENS
93ACC1797		LNS-1125 25MM C-MOUNT LENS
93ACC1798		LNS-1135 35MM C-MOUNT LENS
93ACC1799		LNS-1150 50MM C-MOUNT LENS



Automotive



Electronics



Distribution & Retail



Medical & Pharmaceutical

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For more information and software downloads see: [www.automation.datalogic.com/matrix400](http://www.automation.datalogic.com/matrix400)

**DATALOGIC™**

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