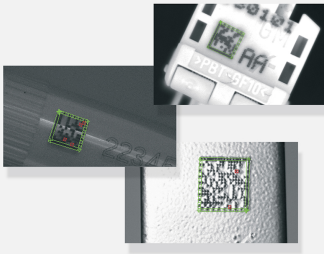# EasyMatrixCode

2D data matrix code reading library

At a Glance

- Automatic detection of the code in the image
- Decodes ECC200, ECC000, ECC050, ECC080, ECC100 and ECC140 codes
- Computes quality indicators as per ANSI/AIM, ISO/IEC 15415, ISO/IEC TR 29158 and SEMI T10-0701 standards
- Very fast operation
- Impressive robustness to noise, blur and distortion
- Support of GS1 Data Matrix codes
- Efficient reading of codes in grid layout
- Multiple codes reading

Benefits

Open eVision Studio: Evaluation, prototyping and development tool

Open eVision Studio is the evaluation, prototyping and development tool of Open eVision. Its intuitive graphical user interface allows you to call and immediately see the result of any of eVision's 2D image processing functions. A scripting functionality generates the corresponding code, which can then be copied and pasted into your application.

Open eVision Studio is free (when using Open eVision 2.0 and above) and does not require any license.

Just click on DOWNLOAD OPEN EVISION STUDIO and install Open eVision. Sample images, manuals and sample programs are included.

EasyMatrixCode Description

Data Matrix codes are widely used for parcel tracking and part identification in the semiconductor, pharmaceutical and mechanical industries.

EasyMatrixCode is a fully automatic reader of 2D Data Matrix codes. It recognizes symbols of any size, contrast, location and orientation in a single operation. Error detection and correction algorithms are used to provide a reliable reading.

EasyMatrixCode is fully compatible with the ANSI/AIM BC11-1997 standard.

Automatic recognition

As an automatic library, a learning phase is not required, but it is optional. Some characteristics of the matrix code may be set manually in order to restrict the search and accelerate the process. These characteristics are: the family of the matrix code, the number of cells, the cells color, whether flipping is allowed or not.

Impressive robustness to noise, blur and distortion

EasyMatrixCode can be used in the most demanding situation. It has been designed to fulfill the most difficult application cases such as:

- Bad illumination conditions: non-uniform contrast, under- or over-exposed images
- Bad images resulting from printing or optical defects: blurred Data Matrix codes, anisotropic and non-uniform scaling, noisy images, skewed images
- Hard-to-detect codes: small-size codes, codes on a textured background, resulting from dot peening, laser marking, ink jet printing or electro-chemical etching on various materials.

Print quality verification

EasyMatrixCode inspects the quality of the data matrix code and computes the indicators as defined by the ANSI/AIM, ISO/IEC 15415, ISO/IEC TR 29158 and SEMI T10-0701 standards.

Grid reading

EasyMatrixCode2 supports the definition of a grid to improve reading regularly positioned Data Matrix Codes. When possible, using a grid substantially improves both the reliability and reading speed.

Neo Licensing System

- Neo is the new Licensing System of Euresys. It is reliable, state-of-the-art, and is now available to store Open eVision and eGrabber licenses.
- Neo allows you to choose where to activate your licenses, either on a Neo Dongle or in a Neo Software Container. You buy a license, you decide later.
- Neo Dongles offer a sturdy hardware and provide the flexibility to be transferred from a computer to another.
- Neo Software Containers do not need any dedicated hardware, and instead are linked to the computer on which they have been activated.
- Neo ships with its own, dedicated, Neo License Manager, which comes in two flavours: an intuitive, easy to use, Graphical User Interface and a Command Line Interface that allows for easy automation of Neo licensing procedures.

All Open eVision libraries are available for Windows and Linux

- Windows 7 to Windows 10, x86 (32 bits) and x86-64 (64 bits)
- Linux x86-64 (64 bits) with a glibc version 2.18 or newer

Applications

Machine Vision for the Electronic Manufacturing Industry

- Mark inspection

Machine Vision for the General Manufacturing Industries

- Product identification for traceability
- Code quality verification for label printing machines

Machine Vision for the Printing Industry

- Label and packaging inspection: Inspection of the quality of the printing of characters and codes

Specifications

Software

Host PC Operating System	• Open eVision is a set of 32-bit and 64-bit libraries that require a processor compatible with the SSE4 instruction set.
	• The Deep Learning Bundle is only available in the 64-bit Open eVision library.
	• Open eVision can be used on the following operating systems:
	– Windows 10 (32- and 64-bits)
	– Windows 8 (32- and 64-bits)
	– Windows 7 (32- and 64-bits)
	– Linux 64 bits (x86-64 only) with a glibc version greater or equal to 2.18
	• Since Open eVision 2.6, discontinued support of:
	– Windows Vista 32-bits Service Pack 1
	– Windows XP 32-bits Service Pack 3
	– Windows Embedded Standard 2009 32-bits
	• Remote connections
	– Remote connections are allowed using remote desktop, TeamViewer or any other similar software.
	• Virtual machines
	– Linux virtual machines are supported. Microsoft Hyper-V and Oracle VirtualBox hypervisors have been successfully tested.
	– Windows virtual machines are not supported.
	• Minimum requirements:
	– RAM: 8 GB
	– Display size: 800 x 600. 1280 x 1024 recommended.
	– Color depth: 16 bits. 32 bits recommended.
	– Between 100 MB and 2 GB free hard disk space for libraries, depending on selected options.
APIs	• Supported Integrated Development Environments and Programming Languages:
	– Microsoft Visual Studio 2008 SP1 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2010 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2012 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2013 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2015 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2017 (C++, C#, VB .NET, C++/CLI)
	– Microsoft Visual Studio 2019 (C++, C#, VB .NET, C++/CLI)
	– QtCreator 4.15 with Qt 5.12
	• Since Open eVision 2.5.1, discontinued support of:
	– Borland C++ Builder 6.0 update 4 (C++)
	– CodeGear Delphi 2009 (Object Pascal)
	– CodeGear C++ Builder 2009 (C++)
	– Microsoft Visual Studio 6.0 SP6 (C++, Basic)
	– ActiveX API
	• Since Open eVision 2.4.1, discontinued support of:
	– Embarcadero RAD Studio XE4 and XE5 (C++, Object Pascal, 32 bits only)

Ordering Information

Product code - Description	• 4007 - EasyMatrixCode for USB dongle
	• 4057 - EasyMatrixCode for PAR dongle
	• 4107 - EasyMatrixCode for board licensing
	• 4157 - Open EasyMatrixCode for USB dongle
	• 4207 - Open EasyMatrixCode for PAR dongle
	• 4257 - Open EasyMatrixCode for soft-based licensing
	• 4307 - Open eVision EasyMatrixCode
Optional accessories	• 6512 - eVision/Open eVision USB Dongle (empty)
	• 6513 - eVision/Open eVision Parallel Dongle (empty)
	• 6514 - Neo USB Dongle (empty)

EMEA

Euresys SA

Liège Science Park - Rue du Bois Saint-Jean, 20
4102 Seraing - Belgium

Phone: +32 4 367 72 88
Email: sales.europe@euresys.com

EMEA

Sensor to Image GmbH

Lechtorstrasse 20 -
86956 Schongau - Germany

Phone: +49 8861 2369 0
Email: sales.europe@euresys.com

AMERICA

Euresys Inc.

27132-A Paseo Espada - Suite 421
San Juan Capistrano, CA 92675 - United States

Phone: +1 949 743 0612
Email: sales.americas@euresys.com

ASIA

Euresys Pte. Ltd.

750A Chai Chee Road - #07-15 ESR BizPark @ Chai Chee
Singapore 469001 - Singapore

Phone: +65 6445 4800
Email: sales.asia@euresys.com

CHINA

Euresys Shanghai Liaison Office

Unit 802, Tower B, Greenland The Center - No.500 Yunjin Road, Xuhui District
200232 Shanghai - China
Euresys上海联络处
上海市徐汇区云锦路500号绿地汇中心B座802室
200232

Phone: +86 21 33686220
Email: sales.china@euresys.com

CHINA

Euresys Shenzhen Liaison Office

Room 1202 - Chinese Overseas Scholars Venture Building
518057 Shenzen - China
Euresys深圳联络处
深圳南山区留学生创业大厦1期1202
518057

Phone: +86 755 86506902
Email: sales.china@euresys.com

JAPAN

Euresys Japan K.K.

Expert Office Shinyokohama - Nisso Dai 18 Building, Shinyokohama 3-7-18, Kohoku
Yokohama 222-0033 - Japan
〒222−0033
神奈川県横浜市港北区新横浜3−7−18　日総第18ビル　エキスパートオフィス新横浜

Phone: +81 45 594 7259

Email: sales.japan@euresys.com

More at www.euresys.com