PRODUCT GUIDE

Machine Vision

IMPACT

ODATALOGIC

THE VISION IS YOURS

MACHINE VISION

The Machine Vision Business Unit of Datalogic Industrial Automation is built upon the acquisition of PPT Vision Inc. in 2011. For over 30 years, PPT Vision has focused exclusively on the development of machine vision technology for in-line automated inspection and factory automation. Thanks to its extensive experience of thousands of successful machine vision installations throughout the world, PPT has become a recognized world leader in machine vision innovation and has brought unique benefits to customers:

- **A single machine vision software platform** - Programming software that is flexible, powerful, and common to all smart cameras and embedded vision system products. This means no operator cross-training and no need to maintain different software platforms– just select the hardware you want and go! Transfer inspection programs from one camera to another and back again without redeveloping the application.

- **Flexibility and Security** - Control Panel Manager (CPM) - a control panel software that is not only secure, but field-configurable and common to all products. Protect your inspection and system configuration from unauthorized users, but allow qualified personnel as much flexibility as they need. CPM provides ultimate flexibility when compared to complicated software programming languages and allows you to create control panels in a mere fraction of the time. Connect and view data from one or many vision systems with just a click of a button.

- **Time-to-market** - Personalized, technically superior and committed customer support. We can provide you with as much support as you need when it comes to delivering application solutions. Choose one of our highly skilled and qualified application engineers or training specialists, or select a certified partner to guide you from application concept to installation and qualification of your system.

- **Large product portfolio** - Hardware platforms that allow our customers to expand their range of applications. From standalone compact smart cameras to the highest performance embedded processors, we can deliver a vision system optimized for your inspection needs. Choose a smart camera with color or greyscale sensor, CCD or CMOS; it does not matter because we have you covered. For vision processors, select from a single to multi-headed area scan or line scan cameras that range from VGA to ultra-high resolution images.

Today, after completion of the integration process between Datalogic Industrial Automation and PPT Vision Inc., the combined product lines of the two companies encompass both hardware and software while covering a wide range of performance and price point requirements. Selling through a global network of experienced distributors and integration partners, Datalogic Automation is the complete solution provider for all your machine vision needs.

TECHNOLOGY TIMELINE

1982	1984	1991	1991	1994	1997	1997	2000	2001	2002	2002
Founded as Pattern Processing Technologies	APP 200 Series Vision System Introduced	Vision Process Controller (VPC) Product Released	Vision Program Manager (Classic) Software Released	PPT Vision releases the Passport Scout Product Lineup	PPT Acquires 3D Scanning Moiré Interferometry (SMI) Technology	DSL Vision System Introduced – World's First Full Digital Vision System	Microelectronics Product Group (MPG) Developed	PPT 861 3D Product released for Semiconductor Business	IMPACT C–Series Tethered Smart Camera Product Introduced	IMPACT Software Suite Released (Vision Program Manager & Control Panel Manager)

MACHINE VISION PRODUCT GROUP

- **Smart Cameras**
- **Vision Processors**
- **Machine Vision Software**

Our complete family of high-performance smart cameras and embedded machine vision systems utilizes the same software across all products. The hardware consists of smart cameras and embedded vision systems. These products are specifically designed and developed by our engineers to meet all your manufacturing inspection requirements and to get your application up and running faster than anyone else in the industry – Guaranteed !

INNOVATION

Through continuous development and refinement, our product line is the most complete hardware and software solution available on the market today.

EXPERIENCE

With 30 years in the machine vision business and thousands of successful customer installations, our organization and partners are able to solve the most challenging inspection applications within a wide variety of markets and manufacturing settings.

RESPONSIVENESS

Together with our global distribution and integration partners, pride our self on providing a level of training and support that is unmatched in the industry. We listen, then execute – turning our customers' requirements into solutions faster than anyone else.

2003	2003	2004	2005	2006	2010	2011	2012	2013	2014	2015	2016
Integrates CameraLink into C-Series Processor	OCR Software Released	IMPACT T – Series Inline Smart Camera Introduced	Datalogic SCS1 Smart Camera Introduced	IMPACT A – Series Right Angle Smart Camera Introduced	MX40 Multi camera vision processor Introduced	PPT Vision acquired by Datalogic	PPT Vision Inc. becomes the Machine Vision BU of Datalogic Industrial Automation	A30 and T4x-Series Smart Camera Introduced	P-Series Smart Cameras introduced	MX-U Vision Processor Introduced	MX-E Vision Processor Introduced

P-SERIES SMART CAMERA

P-SERIES

The P-Series is an ultra-compact cost effective smart camera offering advanced machine vision functionalities in a fully embedded stand-alone device.

The P-Series is available with gray-scale or color CMOS image sensors with two different resolutions: 640x480 pixels at over 120fps and 1280x1024 pixels at up to 60fps. Lenses and illuminators are fully interchangeable and can be mounted and replaced by the user.

Powered by IMPACT Lite, the P-Series is the perfect product to tackle machine vision applications in food & beverage, pharmaceutical and automotive industries where the ease of use, compactness and the price/performance ratio are the most important buying criteria.

HIGHLIGHTS

- Fully embedded ultra-compact device
- Rotating connectors for 0° & 90° form factors
- Rugged IP67 rated housing
- VGA and 1.3 megapixel resolutions
- Gray-scale and color CMOS sensors
- Interchangeable lenses, illuminators and filters
- Built-in Serial and Ethernet interfaces
- Powered by IMPACT Lite software

APPLICATIONS

- Bottle cap inspection
- Label position, orientation and color
- Packaging/sealing verification
- Vial in tray counting
- Inspection of flip-off caps (presence and color)
- Component assembling verification
- Component alignment/positioning
- Lot and batch number reading
- Expiration date verification
- Serial number traceability

IMPACT+ *OCR*

IMPACT+ *OCR* is a turn-key solution designed for Optical Character Recognition applications in Food & Beverage industry. It includes the compact bestselling P-Series Smart Camera (P19) powered by dedicated and easy-to-use OCR software.

Combined with thermal transfer printers, **IMPACT+** *OCR* guarantees the highest printing quality which in turn enhances traceability of Food & Beverage packaging processes. Expiration dates, serial and lot numbers can be easily read and verified.

FOOD PACKAGING

IMPACT+ OCR makes variable data printing inspection fast and easy without the requirement for machine vision expertise. The software is very intuitive providing users with a step by step configuration process.

Multiple OCR inspection regions, the capability for storing different recipes and a customizable operator interface offer an outstanding application flexibility.
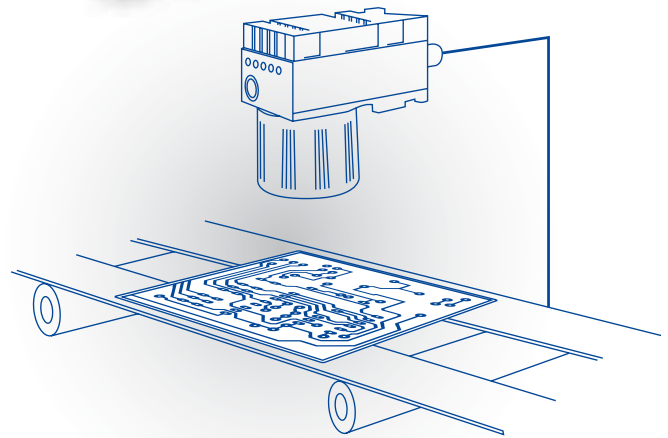
A/T- SERIES SMART CAMERAS

A/T-SERIES

The Datalogic smart camera products are standalone, general-purpose, industrialized machine vision inspection systems with especially flexible programming through the IMPACT software.

Two product series cover different price/ performance needs: the general purpose A-Series and the extremely powerful T-Series.

With models ranging from 640x480 pixel resolution up to 5 Megapixels, IP67 industrial rating, built in discrete I/Os, onboard serial and Ethernet interfaces, the A and T-Series smart cameras can deliver the right solution for your machine vision needs.

HIGHLIGHTS

- Two product series for different performance and price point requirements
- Real time operating system for accurate results
- Full machine vision capability and programmability – not a configurable sensor
- Can run headless or provide data to PCs
- Industrially hardened enclosure - IP67 rating
- Full Serial and Ethernet communication capability
- Built in discrete I/Os
- 90 degree format

APPLICATIONS

- Packaging artwork verification
- Medical device assembly control
- Dashboard inspection
- Electric fuse box inspection
- Precision Repeating Measurements (Measuring Integrated Circuit Contacts)
- Surface flow detection
- Plastic Molding Short Shot Detection (Carrier Tape Inspection)
- Pattern Finding (Locating and Identifying Product Orientation)

ELECTRONIC

The T4x-Series product is a high performance, ruggedized smart camera that can address most single camera inspection needs.

The T4x-Series product incorporates high quality CCD imagers, a class rating of IP67 and the latest in high performance processors. This makes it perfectly suited for the demands of high density pin inspections in the automotive and telecom industries. These connectors require not only verification of pin presence, but also high precision measurements across, potentially, several hundred pins and key feature locations.
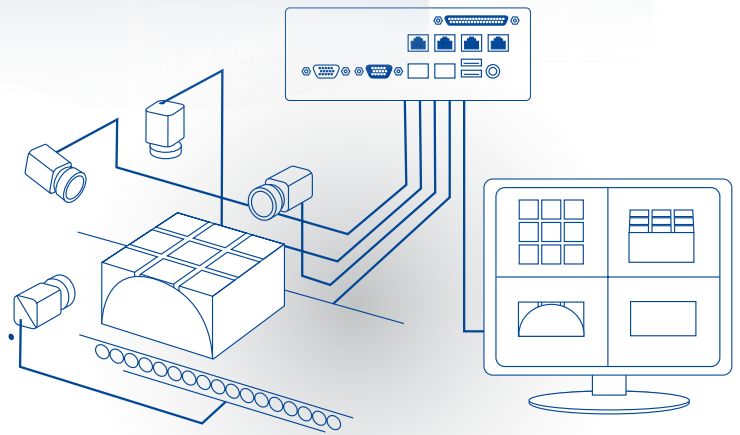
VISION PROCESSORS

MX-E/MX-U SERIES

Vision processors provide the highest performance in image processing with even more flexibility through multi-camera support.

Connect to multiple camera formats at one time (e.g. area scan, line scan, high resolution, 3 CCD, etc. on same processor) via GigE (MX-E Series) or USB3.0 (MX-U Series) Vision standards.

Three models allow you to choose the correct level of performance based on your application needs – from economical to high performance.

HIGHLIGHTS

- Three levels of high-powered image processing capability
- Seamless integration with standard factory networks and secondary software packages
- Over 100 different cameras supported, including line scan
- Use different cameras formats and resolutions on one processor
- Complete software tool set for ultimate programming flexibility
- Place cameras a long distance apart
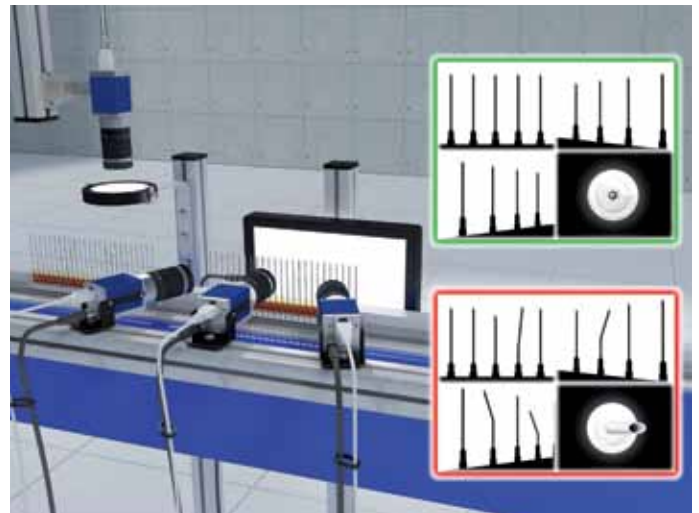- No need for a secondary PC to view or retain images and inspection data

APPLICATIONS

- High-Resolution Image Analysis (LCD Panel Inspection)
- High-Speed Product Inspection (Web or Continuous Part Inspection)
- Multi-Camera Inspection (Hypodermic Needle Inspection)
- Line scan Applications (Automotive or Telecom Connector Inspection)
- Image Unwrapping (Code Reading on Circular Objects)
- High-Resolution Color Analysis (Color Matching Inspection)

MEDICAL

The The MX-E Series vision processor product line up provides you with the most image processing performance in a fully integrated vision system. With multi-core processors, these systems can handle the most demanding high-speed and multi-camera applications, such as hypodermic needle inspection. The needle application shown here requires the system to image and verify needle length, straightness, and epoxy presence from three different cameras, while a fourth camera checks for grinding defects at the end of the needle. This inspection is being performed at seventeen needles per second.

MACHINE VISION SOFTWARE

IMPACT SOFTWARE

IMPACT Software Suite, with over 120 software tools and controls, allows you to create unique inspection programs and develop user interfaces quickly and easily.

All this can be done without the loss of functionality, like traditional configurable systems, no programming is required.

IMPACT Software Suite also provides a Software Development Kit (SDK) that guarantees full integration of machine vision monitoring capabilities into HMI software applications. IMPACT SDK is the ideal solution for Original Equipment Manufacturers (OEM) that need to create a single control point for the whole manufacturing line.

One software – countless applications !

HIGHLIGHTS

- Graphical icon-based drag and drop user interface – no programming required
- Easy to understand, tree-view logic flow
- Tool Setups guide users through step-by-step tool configuration
- Includes inspection and user interface development programs as well as a runtime user interface
- Runs on all smart camera and vision processor platforms
- Provides a software development kit to integrate machine vision monitoring capabilities into HMI applications
- Provides real time parameter changes of cameras
- Controls and displays images and data from multiple smart cameras or vision processors
- Password protection allows only authorized users to make changes

VISION PROGRAM MANAGER (VPM) TOOLS:

- Image Filtering
- Locating
- Defect Finding
- Gauging
- Data and Communication
- Code Reading
- Color

CONTROL PANEL MANAGER (CPM) CONTROLS:

- Image Control
- Inspection Result Data
- Advanced GUI Development Support
- Communications
- Security Controls

SOFTWARE DEVELOPMENT KIT (SDK) FUNCTIONALITIES:

- Connecting/disconnecting to/from a vision device
- Displaying current images
- Cropped and subsampled image acquisition
- Inspection loading/unloading
- Getting all data types at the same time from current inspections
- Setting inputs to IMPACT tools, including ROIs (Regions Of Interest)
- Image and vision program uploading/downloading
- Camera calibration settings

AUTOMOTIVE

The A-Series smart camera provides the perfect balance of size, functionality, and pricing to easily support a multitude of tasks, including the verification of objects within an assembly. In this case, the system assures that all of the bearings are in place regardless of position or actual number found. The result is image and data output to the user interface and, at the same time, signals to a reject device.

HEADQUARTERS
Datalogic Automation Srl
Via Lavino, 265
40050 Monte San Pietro - Bologna - Italy
Tel: +39 051/6765611
info.automation.it@datalogic.com

BRANCHES AND SALES OFFICES

EUROPE
BENELUX
Datalogic Automation Benelux
Newtonweg 3
4104 BK Culemborg - The Netherlands
Tel. +31 345/589489
info.automation.nl@datalogic.com

FRANCE
Datalogic Automation Srl
Succursale en France
Le Parc Technologique de Lyon
333 cours du 3ème Millénaire - Le Pôle
69800 Saint Priest
Tél. +33 (0)4/72476180
info.automation.fr@datalogic.com

GERMANY
Datalogic Automation Srl
Niederlassung Central Europe
Gottlieb-Stoll-Straße 1,
73271 Holzmaden
Tel. +49 7023 7453-100
info.automation.de@datalogic.com

ITALY
Datalogic Automation Italy
Via Lavino, 265
40050 Monte San Pietro - Bologna
Tel. +39 051/6765611
info.automation.it@datalogic.com

Via Taormina 1
20093 – Cologno Monzese (MI) Italy
Tel. +39 02 25151211
info.automation.it@datalogic.com

Via Le Gorrey, 10 11020, Donnas - Aosta
Tel. +39-0125-8128201
info.automation.it@datalogic.com

SPAIN
Datalogic Automation Iberia
Sucursal en España
C/ Frederic Mompou 4 esc A, 4° puerta 3ª
08960 Sant Just Desvern - Barcelona
Tel. +34 (0)93/4772059

NORDIC
Datalogic Automation AB
Höjdrodergatan 21
21239 Malmö - Sweden
Tel. +46 (0)40/385000
info.automation.se@datalogic.com

UNITED KINGDOM
Datalogic Automation UK
Datalogic House
Dunstable Road, Redbourn - Herfordshire
AL3 7PR
Tel. +44 (0) 1582 791750
info.automation.uk@datalogic.com

TURKEY
Datalogic ADC Turkey
Merkezi Italya Istanbul Merkez Şubesi Süleyman
Seba Cad. No:48 BJK Plaza A. Blok Kat:4 D.44
34357 - Istanbul - Turkey
Tel. +90 212 396 1550
info.adc.tr@datalogic.com

NORTH AMERICA
Datalogic Automation Inc
511 School House Road
Telford, PA 18969-1196 - United States
Tel. +1-800-BAR-CODE or +1-215-723-0981
info.automation.us@datalogic.com

Datalogic Automation Inc
Machine Vision
5775 W Old Shakopee Rd
STE 160, Bloomington, MN 55437
United States
Tel. +1-952-996-9500
info.automation.us@datalogic.com

SOUTH AMERICA
Datalogic Brazil
Avenida Olivio Roncoletta, 465
Bairro Vila Hortolandia Jundiaì (SP), Brazil
Tel. +55 11 29232600
info.automation.br@datalogic.com

APAC
Australia–New Zealand
Datalogic Automation Pty Ltd
Unit 130, 45 Gilby Road
Mt Waverley - Victoria, 3149 - Australia
Tel. +61 (0)3/95589299
info.automation.au@datalogic.com

CHINA
Datalogic Automation Asia
2nd Floor,10 Building, Dayuan Industrial Zone,
No.1,Pingshan 1st Road,
Liuxuan Blvd.Xili, Nanshan District,
518054,Shenzhen,China
Tel:+86 (0)755-8629 6779
info.automation.cn@datalogic.com

Suite 1301, Hua Rong Plaza,
1289 South Pudong Road, Pudong District
Shanghai 200120
Tel:+86 (0)21-5836 6692
info.automation.cn@datalogic.com

Floor 20, Room 2019, Building 2,
16 West Nan San Huan Road
Fengtai District, Beijing
Tel:+86 (0)10-8757 6375
info.automation.cn@datalogic.com

1202, Excellence Build, 128 Yanji Road,
Shibei District, Qingdao, China
Tel:+86 (0)532 55787889

JAPAN
Idec Auto-Id Solutions Corporation
8-10, Shioe 5-chome, Amagasaki Hyogo,
Japan 661-0976
Tel. +81-6-7711-8880
www.idec.com

DATALOGIC
THE VISION IS YOURS

www.datalogic.com

ACSI 23 rue Lavoisier 69680 CHASSIEU **TEL : 04 78 20 07 82** Mail : **contact@acsi-lyon.com**