

■ EYESPECTOR Smart Cameras



The Eyespector Smart Camera product range arose from the cooperation between VISION COMPONENTS, Ettlingen (hardware manufacturer) and EVT (software company). Eyespector's complex inner life is not visible from the outside. The camera's small size and its robust housing are similar to the ones of a classical camera. There is a C-Mount base at its front, the multitude of interfaces is noticeable at its back. The camera contacts the outside world via ethernet, RS 233 or digital IOs (PLC). Furthermore incremental interface or trigger can be connected. A VGA interface exists as well. The modern Texas Instruments signal processor forms the heart of the camera. With its computational power of up to 8000 MIPS it is comparable to other modern PC technology.



The Eyespector Camera family covers a CCD resolution of 640 x 480 up to 1600 x 1200 in grey levels and colour with frame rates between 30 and 250 hertz. As an operating system a linux-like real time operating-system is used, with which the user does not have to deal. With the help of this system several control programs can be saved and switched externally. It is even possible to save picture- or static- data. The internal flash-memory can be extended with the help of a standard SD-card, which can be selected with memory sizes up to 8 GB. Moreover, hardware-supported machine vision functions are available which can be carried out without loading the CPU.

■ Fields of application



- ✓ Automotive industry
- ✓ Electronic industry
- ✓ Semiconductor industry
- ✓ Food industry
- ✓ Pharmaceutical industry
- ✓ Turning workpiece market (measuring, checking, sortation)
- ✓ Stamping industry (measuring, checking, completeness, outline)
- ✓ Seal / glue control (outline, thickness, position)
- ✓ Screw control (thread of screw, screw head, dimensions)
- ✓ Webinspection (cloth, paper, plastic, metal)
- ✓ Dashboard control (dashboard, gas, water etc.)
- ✓ Display control (LCD, LED, OLED, operation, specimen)
- ✓ Robot Vision
- ✓ 3D-Vision

■ Contact

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EYESPECTOR[®]
 powered by EVT & VC

EVT Eye Vision Technology

The complete package for machine vision



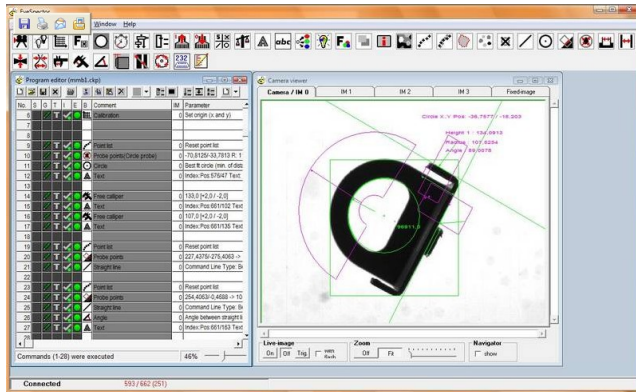
- powerful and efficient SmartCameras
- easy handling
- intuitive graphical programming
- cost-effective systems
- ready-to-use systems



■ EYEVISION PC-Software

Programming of Eyespector camera systems is based on Microsoft Windows 2000, XP or Vista, simply by drag-and-drop. This enables everyone to get quick access to the system. Even very complex tasks can be solved completely in just a few hours. After drawing up the quality testprogram graphically, it is transferred to the camera by SYNC instruction easily. After SYNC it runs on the camera without needing any PC.

The checking programs can be optimized and tested at the same time. For this the live picture, or stored pictures from the camera can be transferred. As all that works graphically or per pressing a button it is possible to build a database with pictures of the checking-parts and optimizing the checking program with the help of them.



The Eyespector-BASIC- interpreter is an important feature. By using the graphic script instruction, the user gets a text-input-window in which he has access to the machine vision- and system library function, utilizing a Basic-like programming language.



■ Instruction set

(limited version)

- Image acquisition/ image storage
- Automatic brightness control
- calibration
- Filter definition of image area and filter
- Colouring of an image area
- Time access function
- Program control to labels
- Loop options
- Testing digital IO input
- Set digital output
- Reading and writing of an ini- file
- Creating, reading and writing of variables
- Evaluation of measuring value due to its tolerances
- Display of the text into the testing-image
- Value transfer by RS232 or ethernet
- Selection of the red, green or blue channel
- Colour control, calculation of the pixels with a defined colour value
- Colour filter
- Barcode reading
- Correlation
- Feedback for certain parameters (e.g. brightness)
- Areacheck number of pixel with a certain greylevel



■ Instruction set

(limited version)

- Changing the pointlist
- Outline checking evaluation circle
- Contour- tracking
- Segmentation according to greylevel
- Calculation of point- based or given option
- Calculation of best-fit line
- Calculation of best-fit circle
- Edge detection tool
- Circle detection tool
- Distance calculation
- Line distance
- Cross section
- Gap length calculation
- Caliper
- Free caliper
- Ancl calculation
- Intersection point (line an circle)
- Edge- counting
- Riemann probe
- Best-fit circle
- RS232-communication
- BASIC- script- interpreter

More powerful modules are available, e.g. OCR- and Data-Matrix- modules, as well as modules for 3D- laserscanning etc.