



ProInspect is configurable machine vision system suited to automated inspection, gauging and machine guidance applications. With ProInspect, State of the art image analysis tools are easily combined into an inspection “recipe” for a specific task.

ProInspect is based on industrial standards such as the PC and the MS Windows. Taking full advantage of modern PC technology, it offers outstanding performances: inspection rates in excess of 40 parts per second are possible.

ProInspect is designed by our team of machine vision professionals with more than 15 years of experience in industrial applications.

Features

Superior image analysis technology

ProInspect supports the superior image analysis technology from Cognex Corporation with PatMax™ and PatInspect.

PatMax is a pattern localization and inspection technique that revolutioned the machine vision industry.

Many other vision tools, proven in thousands of industrial applications, are available.

Flexibility and ease on use

A simple yet powerful point and click interface allows to build sophisticated inspection recipes by combining vision tools and creating relationship between them. For example a set of “calipers” is used to locate edge points of a circular object. An interpolation tool is used to combine the edge points and calculate a best fit circle . The object center is then estimated and the object circularity controlled. Every tool is able to cooperates with others. For example a localization tool could provide a position that is taken into account for adjusting the region of interest of another tool.

A further customization possibility allows to create new vision tools for specific tasks and making them available in ProInspect without releasing a new version.

Strong camera support

ProInspect already supports a wide variety of image sources such as progressive scan cameras, analog and digital megapixel resolution cameras, line scan cameras.

New cameras can be easily supported as they become available.

A standard configuration supports 4 cameras to achieve multiple views of an object or else to serve simultaneously multiple inspection stations.

Robust and modular communication

ProInspect open and modular communication architecture takes advantage of the wide variety of communication devices that are available for PC's: discrete digital I/O, RS232 serial, ethernet, profibus, CANBus are currently supported interfaces. Other communication devices can be easily supported on a custom basis.

Ready to use solutions are available for several robot controllers. Please consult our factory for up to date information on currently supported robots.

Accurate camera calibration

ProInspect provides a variety of calibration techniques suited to diverse application scenarios:

- Automated robot calibration: a calibration target is moved to a set of known points. The system communicates with the robot controller carrying out a completely automated calibration procedure.
- Grid calibration: a known grid of dots is shown to the system. This technique allows the best correction of optical errors.
- Manual calibration. Calibration points are chosen interactively. Simple and applicable to most projects.

PatMax, a revolutionary pattern finding technique.

ProInspect integrates Cognex *PatMax*TM a novel pattern finding technique that provides unrivaled accuracy and robustness. Unlike precedent methods based on correlation of grids of gray values, *PatMax* represents and analyzes objects as geometric shapes. such image representation is far more consistent and can be handled very efficiently. The result is a more accurate and complete search.

PatMax overcomes the limitations of traditional methods. It offer the ability to locate part that are rotated 360° and scaled. It works well even with partially covered objects and can tolerate very degraded images.

PatMax accuracy is also far superior to other methods.

For an object of normal complexity and an image of 640x480 pixel, with random rotation, the search time varies from 5 to 50 msec, with a modern PC.



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