COGNEX

IN-SIGHT® 5705 SERIES COLOR AND MONOCHROME VISION SYSTEMS

- World's only stand-alone 5 megapixel (MP) color vision system
- World's fastest stand-alone 5MP vision system
- Powerful Cognex vision tool library including new PatMax RedLine™, JavaScript support and true 24-bit color processing
- High speed communication with Gigabit Ethernet

The In-Sight 5705 and 5705 Color (5705C) 5MP vision systems are the highest performance In-Sight systems available, which significantly expand the range of applications that can be solved with a stand-alone vision system.

The In-Sight 5705 series offers high performance with optimized vision tools such as PatMax RedLine, a new, blazing fast pattern matching tool. The In-Sight 5705 color follows with the addition of 24-bit color image filters and easy to use color tools that will simplify even the most challenging color machine vision applications. Both systems support the new scripting tools to help reduce the complexity of larger applications.

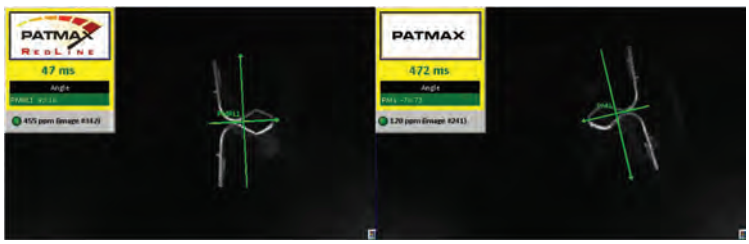
High-performance vision tools

Both models offer vision tools that are optimized to run at high speed. This includes PatMax RedLine pattern matching, filtering (grayscale and color), color tools (color ID, true color extraction, and color histogram), advanced defect detection tools, ID tools (1DMax™, 2DMax™, and OCRMax™) as well as the foundation tools of blob, edge, histogram, and non-linear calibration.

The speed of the 5 megapixel In-Sight 5705 and 5705C systems significantly expands the range of applications that can be solved with a stand-alone vision system.

PatMax, completely reinvented

PatMax RedLine was designed with one goal in mind: blazing fast pattern matching. In typical applications, PatMax RedLine runs 4 to 7 times faster than PatMax – or faster! – with no loss of search accuracy or robustness. Together with PatMax RedLine, the 5705 can reduce cycle times and increase throughput without compromising inspection accuracy.



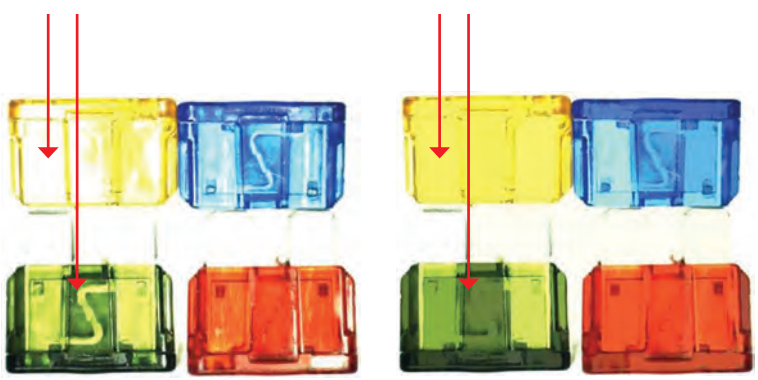
In-Sight 5705C: true color processing

True color filtering, color ID and color extraction tools make color inspections easier than ever. Setting up and performing inspections using these tools requires simple selection of the color region for training. There is no need to understand specific RGB values to train a color. Multiple color models can be gathered in a library that can be referenced by a number of tools for easy color identification or isolating specific colors for inspection. Additionally, true color filtering helps to smooth, highlight, or reduce lighting anomalies on the color image without converting to a grayscale image first. The 5705C also includes grayscale tools and filtering when grayscale inspection is needed in addition to color.

Without color filtering, inspecting for several shades of the same color on an image with hot spots would require adding every shade of the color to the model, which doesn't necessarily result in a better model. With the In-Sight 5705C a simple filter fills in light holes, eliminating most of the hot spots to even out the colors in the image. Once the filter is applied, it's easy to train a model of each color and then to inspect the image to make sure that each of those colors is present. This delivers the most accurate, reliable results in color applications.

HOTSPOTS

NO HOTSPOTS



Unfiltered image

Filtered image

Faster image filters on an In-Sight 5705

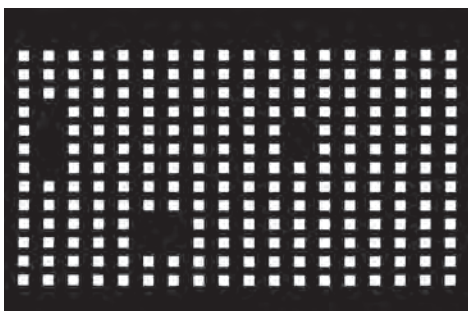
Use image filters to highlight contrasts or fix lighting anomalies on your inspection without the worry of excessive cycle time. Image filters have been optimized for speed on the 5705 series allowing more time for running the tools needed for the inspection and less time on filtering.

Smaller and simpler job files

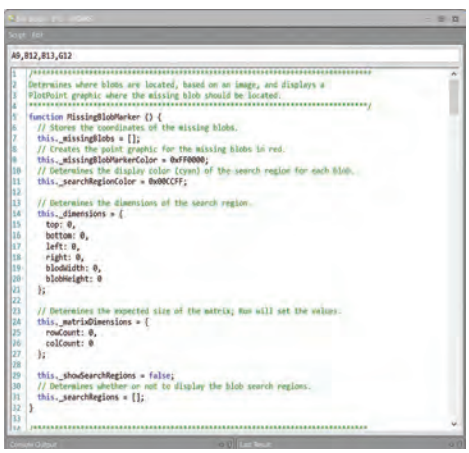
Equipped with In-Sight Explorer software, the In-Sight 5705 provides quick and easy setup with the step-by-step EasyBuilder® interface. Advanced users can access the power and flexibility of the spreadsheet, including the new script function that uses standard JavaScript to simplify complex and data-intensive tasks. With scripting, constructing complicated formulas, analyzing large sets of data and managing spreadsheet cell execution logic can simplify job file maintenance.

Scripting Solution Spotlight:

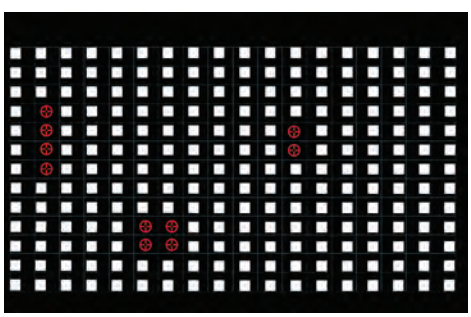
1. Find missing parts in tray with blob tool



2. Use scripting to parse all results



3. Locate and label missing parts



SPECIFICATIONS

	5705	5705C
GUI Interface	Spreadsheet and EasyBuilder	
Firmware	In-Sight Explorer 5.1.0 or later	
Job/Program Memory	128MB non-volatile flash memory (unlimited storage via remote network device)	
Image Processing Memory	512MB SDRAM	
Sensor Type	2/3-inch CCD, global shutter	
Lens Type	C-Mount	
Maximum Resolution (pixels)	2448 x 2048	
Acquisition Rate	16 full frames per second	14 full frames per second
Discrete Inputs	1 opto-isolated, acquisition trigger input. Additional inputs available using a compatible I/O module. Unlimited inputs when using an Ethernet I/O system	
Discrete Outputs	2 built-in, high-speed outputs. Additional outputs available using a compatible I/O module. Unlimited outputs when using an Ethernet I/O system	
Status LEDs	Power, Network Status, Network Traffic, 2 user configurable	
Serial Communication	RS-232C	
Power Consumption	24VDC ±10%, 600mA maximum	
Material	Die-cast aluminum housing	
Dimensions	134.4mm (5.29in) x 124.1mm (4.88in) x 61.4mm (2.42in) with lens cover installed	
Connector type	M12 Ethernet, M12 Power/IO	
IP Rating	IP 67 with lens cover on	

COGNEX Companies around the world rely on Cognex vision and ID to optimize quality, drive down costs and control traceability.

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