

IN-SIGHT® 8405 VISION SYSTEM

The high-performance In-Sight 8405 is an ultra-compact 5 megapixel (MP) vision system that delivers high-performance vision tools, faster communication speeds, and high resolution in a small package that is ideal for integrating into space constrained applications.



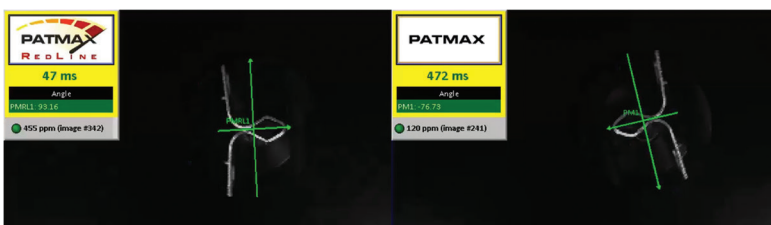
- World's smallest 5MP stand-alone vision system
- Powerful Cognex vision tool library including new PatMax RedLine™ and JavaScript support
- High speed communication with Gigabit Ethernet

Compact vision system fits just about anywhere

In-Sight 8405 compresses an entire stand-alone vision system into an amazingly small package. Its compact size, together with Power over Ethernet (PoE) to minimize cabling, and non-linear calibration tool that enables mounting at angles of up to 45 degrees makes the In-Sight 8405 vision system ideal for integrating into tight spaces on robots and hard-to-reach machinery anywhere on the production line.

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 8405 can reduce cycle times and increase throughput without compromising inspection accuracy.





High-performance vision tools

The In-Sight 8405 offers vision tools that are optimized to run at high speed. This includes PatMax® RedLine pattern matching, filtering (grayscale), advanced defect detection tools, ID tools (1DMax, 2DMax, and OCRMax) as well as the foundation tools of blob, edge, histogram, and non-linear calibration.

Flexible and easy Integration

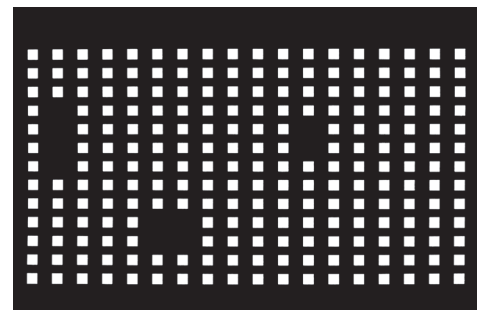
Equipped with In-Sight Explorer software, the In-Sight 8405 provides quick and easy setup with the step-by-step EasyBuilder® interface. Advanced users can access the power and flexibility of the spreadsheet, including the new script function that uses standard JavaScript to simplify complex and data-intensive tasks. With scripting, constructing complicated formulas, analyzing large sets of data and managing spreadsheet cell execution logic can simplify job file maintenance.

Features at-a-glance

- World's smallest 5MP stand-alone vision system
- Compact design
- Powerful Cognex vision tool library including new PatMax RedLine™ and scripting functionality
- High resolution allows larger field of view (FOV) without sacrificing speed or accuracy
- High speed communication with Gigabit Ethernet
- Power over Ethernet to minimize cabling

Scripting Solution Spotlight:

1. Find missing parts in tray with blob tool



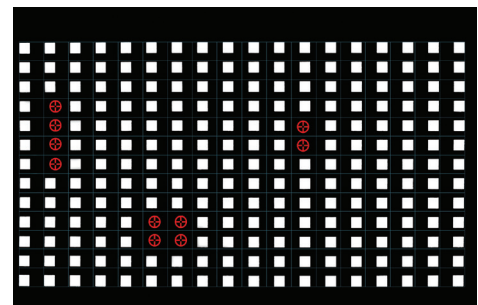
2. Use scripting to parse all results

```

A0_812_813_G12
Script Edit
1 // Determines where blobs are located, based on an image, and displays a
2 // plot point graphic where the missing blob should be located.
3 .....
4 .....
5 function MissingBlobMarker () {
6 // Stores the coordinates of the missing blobs.
7 this_missingBlobs = [];
8 // Creates the point graphic for the missing blobs in red.
9 this_missingBlobMarkerColor = 0xFF0000;
10 // Determines the display color (cyan) of the search region for each blob.
11 this_searchRegionColor = 0x00CCFF;
12 .....
13 // Determines the dimensions of the search region.
14 this_dimensions = {
15 top: 0,
16 bottom: 0,
17 left: 0,
18 right: 0,
19 blobWidth: 0,
20 blobHeight: 0
21 };
22 .....
23 // Determines the expected size of the matrix; Run will set the values.
24 this_matrixDimensions = {
25 rowCount: 0,
26 colCount: 0
27 };
28 .....
29 this_showSearchRegions = false;
30 // Determines whether or not to display the blob search regions.
31 this_searchRegions = [];
32 }
33 .....
34 .....

```

3. Locate and label missing parts



SPECIFICATIONS

GUI Interface	Spreadsheet and EasyBuilder
Firmware	In-Sight Explorer 5.1.0 or later
Job/Program Memory	512 MB non-volatile flash memory (unlimited storage via remote network device)
Image Processing Memory	512MB SDRAM
Sensor Type	1/2.5 inch CMOS, rolling-shutter
Lens Type	C-Mount
Maximum Resolution (pixels)	2592 x 1944
Acquisition Rate	10 full frames per second
Trigger	1 opto-isolated, acquisition trigger input. Remote software commands via Ethernet
Discrete Outputs	2 opto-isolated, NPN/PNP high-speed output lines
Status LEDs	Network, 2 user-configurable
Network Communication	RJ45 Ethernet port (locking), 10/100/1000 BaseT with auto MDIX. IEEE 802.3af TCP/IP Protocol
Power	Class 2 Power over Ethernet (PoE) device
Material	Die-cast zinc housing
Dimensions	31 mm x 31 mm x 63 mm
Connector type	RJ45 (Locking) for PoE and communication; M8 for IO
IP Rating	IP51



COGNEX

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

Corporate Headquarters One Vision Drive Natick, MA 01760 USA Tel: +1 508 650 3000 Fax: +1 508 650 3344

Americas

Americas +1 508 650 3000

Europe

Austria +49 721 6639 393
 Belgium +31 403 05 00 43
 France +33 1 4777 1551
 Germany +49 721 6639 393
 Hungary +36 1 501 0650
 Ireland +0808 168 3001
 Italy +39 02 6747 1200

Netherlands +31 403 05 00 43
 Poland +48 71 776 07 52
 Spain +34 93 445 67 78
 Sweden +46 21 14 55 88
 Switzerland +49 721 6639 393
 Turkey +90 212 306 3120
 United Kingdom +0808 168 3001

Asia

China +86 21 5050 9922
 India +9120 4014 7840
 Japan +81 3 5977 5400
 Korea +82 2 539 9047
 Singapore +65 632 55 700
 Taiwan +886 3 578 0060

© Copyright 2014, Cognex Corporation. All information in this document is subject to change without notice. All Rights Reserved. Cognex, PatMax, In-Sight, and EasyBuilder, are registered trademarks and PatMax Redline, OCRMax and QuickBuild are trademarks of Cognex Corporation. All other trademarks are property of their respective owners. Lit. No. IS8405-DS-201504

www.cognex.com