

## IN-SIGHT MICRO 8000 SERIES VISION SYSTEMS

The In-Sight® Micro 8000 series, a new family of ultra-compact, standalone smart camera vision systems, delivers industry-leading vision tool performance at PC speeds, all in the form factor of a traditional GigE Vision® camera.



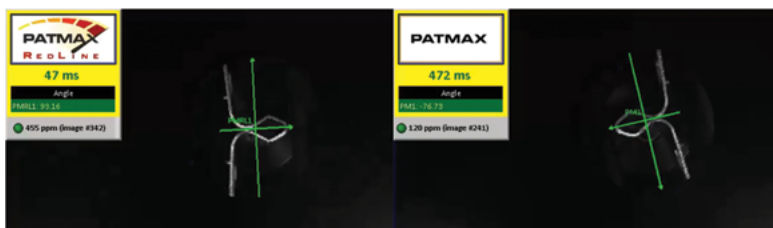
- World's smallest, full line, standalone vision system available in VGA, 1MP, 2MP and 5MP resolutions
- Powerful vision tool library including new PatMax RedLine™
- Step by step application setup with EasyBuilder, and flexibility of added control with spreadsheet and scripting
- High Speed communication with Gigabit Ethernet
- Fast acquisition VGA, 1MP and 2MP cameras

### Compact vision system fits just about anywhere

In-Sight Micro 8000 series compresses an entire stand-alone vision system into an amazingly small package. Its compact size, together with Power over Ethernet (PoE) to minimize cabling makes the In-Sight 8000 vision system family ideal for integrating into tight spaces on robots and hard-to-reach machinery anywhere on the production line. From high acquisition speed VGA to high resolution 5MP system, the 8000 delivers the resolution and speed you need for your application, in a package the size of an image capture only camera.

### 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 8000 series can reduce cycle times and increase throughput without compromising inspection accuracy.



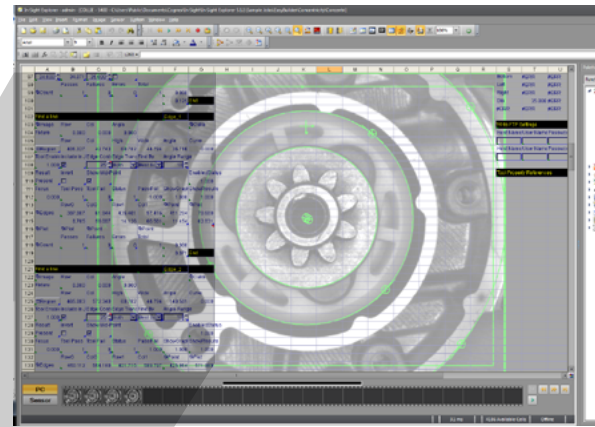
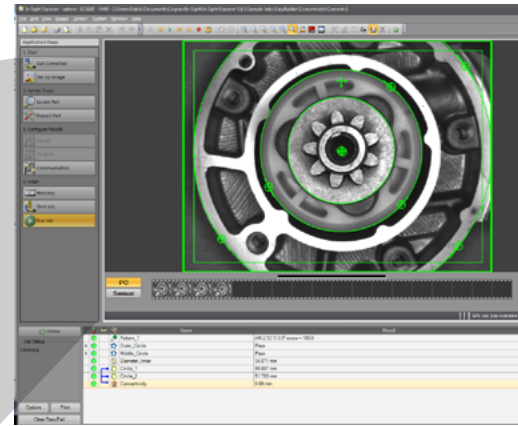
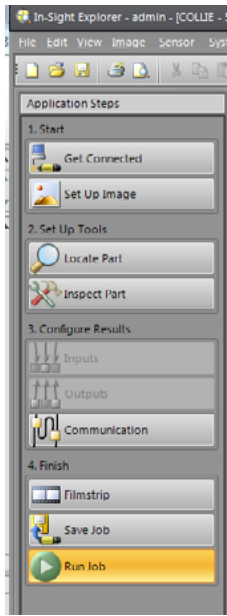


## High-performance vision tools

The In-Sight 8000 Series offers vision tools that are optimized to run at high speed. This includes PatMax RedLine pattern matching, image processing, advanced defect detection, ID (1-D, 2-D and OCR) as well as the foundation tools like blob, edge, histogram and non-linear calibration.

## Flexible and easy Integration

Like all In-Sight vision systems, the In-Sight 8000 series are conveniently setup with the In-Sight Explorer software. In-Sight Explorer combines the guided step by step setup of EasyBuilder with the additional power and flexibility of the spreadsheet for greater control and customizing of application data. Also included is the new scripting function which uses standard JavaScript to simplify data-intensive tasks like geometric analysis of hundreds of points, parsing and comparison of text or ID code results, or complex final result logic.



102 Find a line										
Image	Row	Col	Angle	Calib						
103	Failure	0.000	0.000	0.000						
104	Region	401.327	42.743	60.782	44.794	36.716	0.000			
105	Tool Enable	Include	In J	Edge	Contr	Edge	Trans	Find By	Angle Range	
106	1.000	<input checked="" type="checkbox"/>	25	Both	Best	Set	10			
107	Result	Invert	Show Mid-Point	Enabled/Status						
108	Present	<input checked="" type="checkbox"/>	1.000							
109	Focus	Tool Pass	Tool Fail	Status	Pass/Fail	Show Graph	Show Results			
110	0.000	1	0	1.000	1.000	1.000	1.000			
111	Row0	Col0	Row1	Col1	Point	Plot				
112	387.007	61.944	435.401	97.416	411.204	79.680				
113	0.705	59.097	14.126	66.501	11.454	62.031				
114	Edges	Plot	Point	Point						
115	Passes	Failures	Errors	Total						
116	Count	1	0	1	0.000					
117	0.000	0.071 End								
118	120									
119	121 Find a line									
120	Image	Row	Col	Angle	Calib					
121	Failure	0.000	0.000	0.000						
122	Region	465.083	57.240	60.782	44.794	140.501	0.000			
123	Tool Enable	Include	In J	Edge	Contr	Edge	Trans	Find By	Angle Range	
124	1.000	<input checked="" type="checkbox"/>	25	Both	Best	Set	10			
125	Result	Invert	Show Mid-Point	Enabled/Status						
126	Present	<input checked="" type="checkbox"/>	1.000							
127	Focus	Tool Pass	Tool Fail	Status	Pass/Fail	Show Graph	Show Results			
128	0.000	1	0	1.000	1.000	1.000	1.000			
129	Row0	Col0	Row1	Col1	Point	Plot				
130	450.112	554.100	401.715	509.797	425.914	571.909				
131	0.705	59.097	14.126	66.501	11.454	62.031				
132	Edges	Plot	Point	Point						
133	Passes	Failures	Errors	Total						
134	Count	1	0	1	0.000					
135	0.000	0.071 End								

# SPECIFICATIONS

Model	In-Sight 8400/8200	In-Sight 8401	In-Sight 8402	In-Sight 8405
GUI Interface	Spreadsheet and EasyBuilder			
Firmware	In-Sight Explorer 5.1.1			
Job/Program Memory	512 MB non-volatile flash memory (unlimited storage via remote network device)			
Image Processing Memory	512 MB SDRAM			
Sensor Type	1/1.8 inch CMOS, global-shutter			1/2.5 inch CMOS, rolling-shutter
Sensor Properties	9mm diagonal, 4.5 x 4.5 $\mu\text{m}$ square			7.13 mm diagonal, 2.2 x 2.2 $\mu\text{m}$ square
Maximum Resolution (pixels) <sup>1</sup>	640 x 480	1280 x 1024	1600 x 1200	2592 x 1944
Acquisition Rate <sup>2</sup>	200/60	70	53	10
Lens Type	C-Mount			
Trigger	1 opto-isolated, acquisition trigger input. Remote software commands via Ethernet.			
Discrete Inputs	Dedicated trigger input only			
Discrete Outputs	2 opto-isolated, NPN/PNP high-speed output lines			
Status LEDs	Network status, 2 user-configurable			
Network Communication	10/100/1000 BaseT			
Power	Class 2 Power over Ethernet (PoE) device			
Power Type	PoE Type A and Type B			
Power Consumption	6.49 W maximum per Class 2 PoE			
Material	Die-cast zinc housing			
Mounting	Four M3 threaded mounting holes (1/4-20 and M6 mounting holes available with mounting block accessory: BKT-IS8K-01)			
Dimensions <sup>3</sup>	In-Sight 8400/8200/8401/8402 are: 31mm x 31mm x 75mm In-Sight 8405 is: 31mm x 31mm x 71mm			
Connector type	M12 for PoE/Communication; M8 for IO			RJ45 (Locking) for PoE/communication; M8 for IO
IP Rating	IP40			IP30

<sup>1</sup>The number of image sensor rows are configurable and can be set within the In-Sight Explorer software. Decreasing the number of rows will increase the number of frames per second acquired by the vision system. Refer to the AcquireImage topic in the In-Sight® Explorer Help file for more information.

<sup>2</sup>Maximum frames per second is job-dependent, based on the minimum exposure for a full image frame capture using the dedicated acquisition trigger, and assumes there is no user interface connection to the vision system.

<sup>3</sup>Including connector housing

## 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 2016, 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. ISM8000-DS-201610-EN

[www.cognex.com](http://www.cognex.com)