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Find the *Cognex ISM1100-01* at our website: *Click HERE*

COGNEX

PRODUCT GUIDE 2008



Introducing ...
the world's smallest,
smartest, easiest
vision system.

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In-Sight
Vision Systems

Micro Series

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Next-Generation Vision Solutions

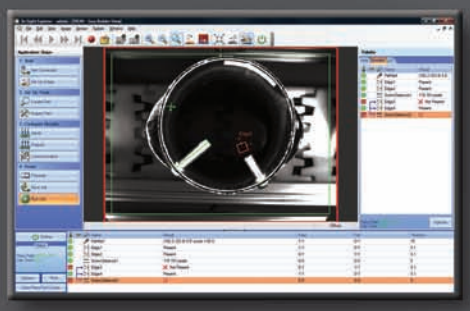
The powerful and flexible In-Sight® Micro vision system — together with its highly-intuitive EasyBuilder™ user interface — delivers everything required to easily set up robust applications. And, the optional VisionView display adds impressive visualization of information for multiple applications.

Powerful Performance

In-Sight Micro vision systems provide world-class performance in the smallest package available. Powerful vision applications can now be solved where system size was previously a limiting factor … especially where multiple systems have to be installed in a tight space.



Shown actual size





7-inch color touch screen

Simple Setup

EasyBuilder configuration software provides intuitive setup of even the most difficult applications. With no programming or spreadsheet needed, applications are deployed at breakthrough speed. EasyBuilder makes even the most powerful vision tools easy to use.

Versatile Visualization

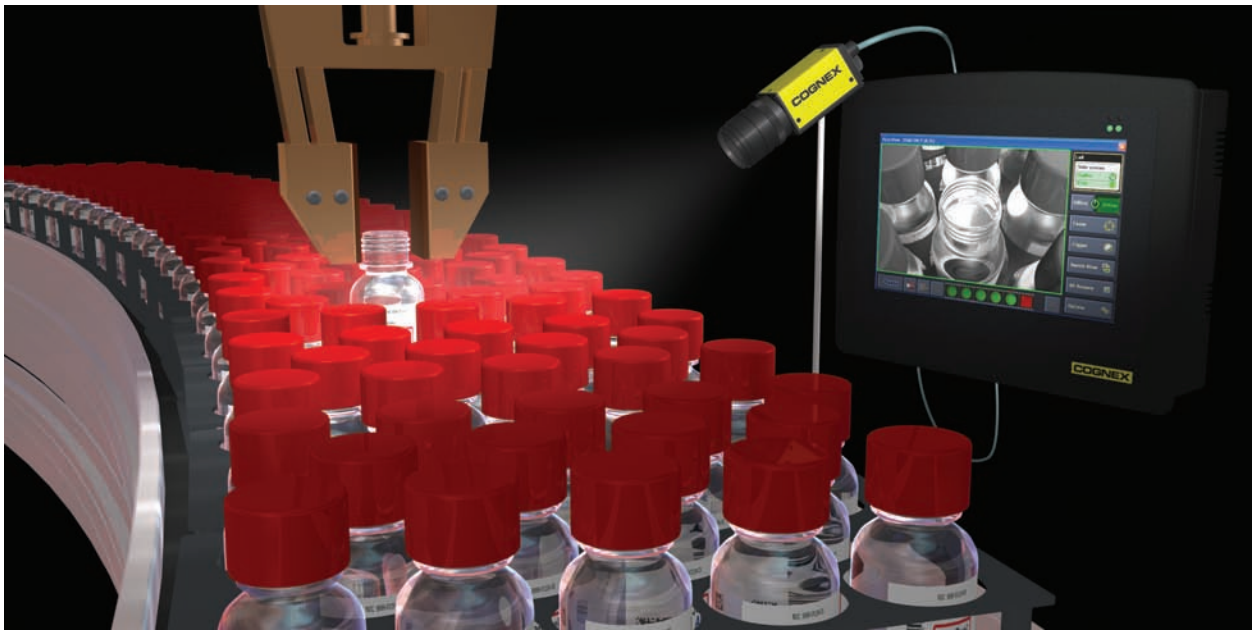
VisionView™ is a compact touch-screen operator interface panel for In-Sight® Micro vision systems. VisionView automatically detects any connected Cognex® vision system, and creates a tiled view for as many as nine systems. This allows VisionView to be easily added to any configuration or existing application — without requiring a PC.

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Powerful Performance

The Cognex In-Sight Micro is the world's smallest, smartest, easiest, and all-in-one vision system. Small in size (30mm x 30mm x 60mm), but big in performance, In-Sight Micro users have the complete and proven In-Sight vision tool library available for all applications.

Small size, combined with flexible mounting capability, makes the In-Sight Micro easier to fit onto an existing machine, or saves real estate on a new machine. And, for those hard-to-reach inspections, the unique In-Sight non-linear calibration tool enables you to mount the In-Sight Micro at up to a 45-degree angle.



An example of a medical vials pick-and-place application, where the In-Sight Micro vision system detects vials having missing caps and guides the robot to them.

A Complete Range of Models

Whether for single-point inspection tasks, or building an entire factory-wide network of vision systems, In-Sight Micro models are available to meet the cost and functionality of the application. And, for system expansion, multiple In-Sight Micro vision systems can be linked to a VisionView display and I/O accessories.



Model	Description
1020	Entry-level system with limited tool set* and EasyBuilder interface only (640x480)
1050	Entry-level system with limited tool set* plus spreadsheet flexibility (640x480)
1100	Best price/performance model with complete tool library (640x480)
1110	ID reader-only version (640x480)
1400	Highest-speed vision system (640x480)
1410	Highest-speed ID reader-only version (640x480)
1403	High-resolution vision system in Micro form factor (1600x1200)
1413	High-resolution ID reader-only version (1600x1200)

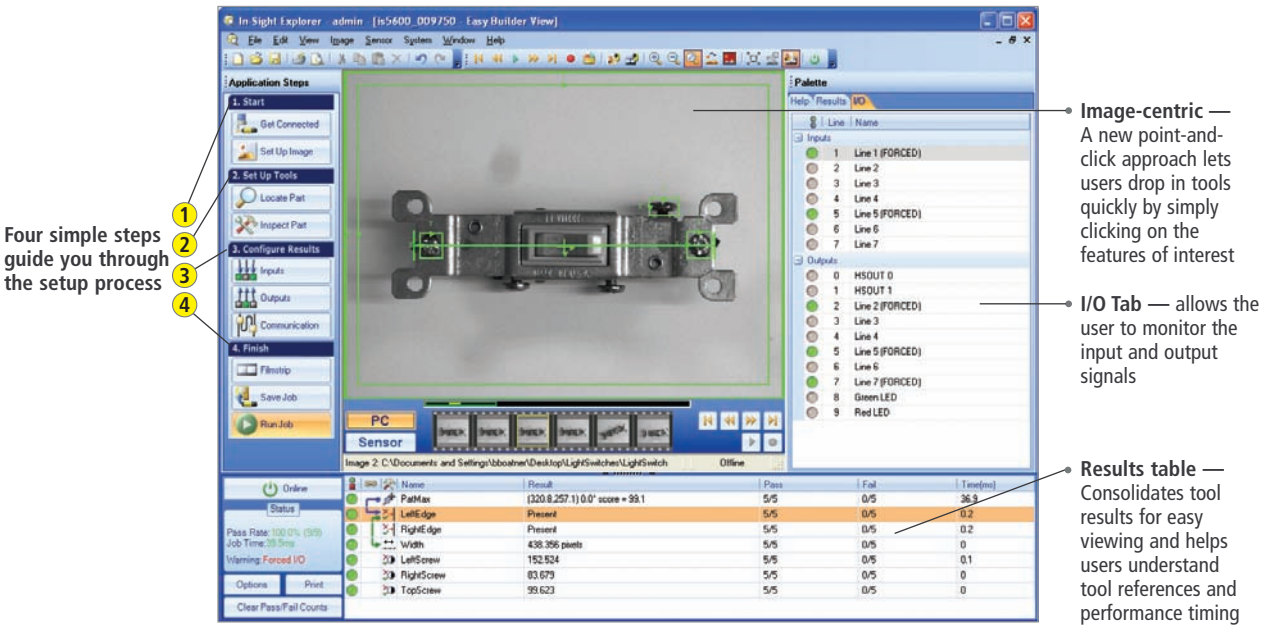
* Limited tool set provides all In-Sight vision tools except ID code and text reading/verification, non-linear calibration, and PatMax®.

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Simple Setup

The most powerful In-Sight vision tools are now the easiest to use and are presented simply — from a control engineer's perspective, not from a vision expert's. The EasyBuilder interface walks you through the process of setting up your vision application, step by step.

Great for novice users, the application is deployed and running in a very short time. EasyBuilder doesn't require users to learn programming, enabling them to focus on what's most familiar … the part!



The EasyBuilder user interface provides intuitive setups for even the most difficult applications. With no programming or spreadsheets needed, applications are deployed at breakthrough speed.

Intuitive, Easy to Use

Working from an image of the part, four simple steps complete the application setup:

① **Start**	Find an In-Sight vision system on the network, then be guided through triggering the vision system and setting up scale and nonlinear calibrations.
② **Set up tools**	After finding the part, a library of 22 vision tools is available to inspect the part. The most powerful vision tools available are now made easy to use.
③ **Configure**	A new point-and-click communications setup provides easy selection of data to be sent, and the protocol to use for communicating to a PLC, robot, or HMI for data collection and archiving results.
④ **Finish**	In the deployment mode, colorful tool graphics, a results table, and a filmstrip control to review images simplify troubleshooting the application and identifying bad parts.

That's all it takes to complete an application! In a fraction of the time that you would normally spend learning how to set up a vision system, you can have your entire solution configured, deployed, and productive.

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Versatile Visualization

The simple low cost VisionView operator interface panel facilitates monitoring the production process without ever having to connect to a PC … making operator decisions easier than ever. A tiled view of images from up to nine systems can be displayed. And, standard built-in automation protocols provide information to the control system and HMI simply and easily.



Automatic system detection … it automatically detects any Cognex vision system on the network

Mix and match Cognex vision systems, and view them all at the same time

"Plug-and-Go" Configuration … no PC required. Just use the simple setup from within VisionView

Optimized for Vision … 800x480 touch screen (widescreen) displays full color images

System expansion … five Ethernet ports and three USB ports allow system flexibility

Fast image updates … provide the most recent inspection images

Run Mode Features

Applications often require customization to prevent unauthorized users from interrupting a critical process. VisionView offers a wide range of run mode features, including control customization. With VisionView, critical controls, such as trigger and online status, can be configured so that only authorized users are able to modify them.



- Quickly monitor and change online/offline status
- Fast refresh mode makes it easy to focus
- Manual trigger to capture image
- Turn on-screen graphic areas on and off
- Select tiled (multiple) view
- Return to main configuration screen

The "Filmstrip" feature enables a review of recent part failures, as well as trouble-shooting the manufacturing process.

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Specifications

IN-SIGHT MICRO VISION SYSTEMS

IMAGE

Sensor	
Standard resolution	1/3-inch CCD
High resolution	1/1.8-inch CCD
Resolution (pixels)	
Standard resolution	640x480 VGA
High resolution	1600x1200 UXGA
Acquisition[1]	
Standard resolution	42 full frames per second
High resolution	13 full frames per second
Lens type	CS-mount and C-mount (with 5mm extension, included)

MINIMUM FIRMWARE REQUIREMENTS

In-Sight version	Release 4.1

MEMORY

Job/Program	64MB non-volatile flash memory
Ram/ Image Storage	128MB

I/O

Trigger Input	One onboard opto-isolated, NPN/PNP, acquisition trigger input
Discrete Outputs	Two onboard opto-isolated, NPN/PNP, high speed outputs, 100mA Max
Expansion I/O	Eight Ethernet inputs, eight Ethernet outputs when connected to the CIO-WENET (750-341) Ethernet I/O expansion module
Status LEDs	Network, 2 user-configurable

NETWORK COMMUNICATIONS

1 Ethernet port, 10/100 BaseT TCP/IP	
Standard Protocols	TCP/IP, SMTP, FTP, Telnet, DHCP (factory default) or static IP address
Fieldbus Protocols	PROFINET, Ethernet/IP, Modbus TCP

POWER

Class	Class 2 (Power Over Ethernet) PoE device
Type	A or B accepted

MECHANICAL

Material	Die-cast zinc housing and steel cover
Mounting	Four M3 threaded mounting holes or included 1/4"-20 mounting block
Dimensions	30mm (1.18in) W x 30mm (1.18in) H x 60mm (2.36in) D
Weight	145g (5.1oz.) with mounting block 120g (4.2oz.) without mounting block

ENVIRONMENTAL

Operating Temp	0°C (32°F) to 45°C (113°F)
Storage temp.	-30°C (-22°F) to 80°C (176°F)
Humidity	90%, non-condensing
Protection	IP51
Shock	80G per IEC 68-2-27
Vibration	10G from 10-2000 Hz. Vibration per IEC 68-2-6.

CERTIFICATIONS

CE, FCC, TUV SUD NRTL, RoHS

VISIONVIEW 700 OPERATOR INTERFACE

MINIMUM FIRMWARE REQUIREMENTS

Models supported	In-Sight Micro Vision Systems firmware 4.1.0 and later, In-Sight 3400 and 5000 firmware 3.1.0 and later and DVT 515, 535, 535C, 545, 545C, 550, 554, 554C and XS systems with Framework 2.7 and later and Intellect 1.3 and later
User-selectable languages	English, French, German, Japanese, Spanish, Simplified Chinese and Korean

TOUCH SCREEN

Size	7-inch (16:9 aspect ratio)
Type	TFT LCD
Resolution (pixels)	800x480 WVGA (384,000 pixels)
Number of colors	18bits/pixel (262,144)
Luminance	400 nit
Backlight life	10,000 hours to 50% brightness. Backlight life may be increased beyond 50,000 hours by using the Inactivity Timeout

MEMORY

System	64MB SDRAM
Program	128MB non-volatile flash memory
Video	16MB Video SDRAM

COMMUNICATIONS

Ethernet	10/100 BaseT TCP/IP, Full Dulpex
LAN Port	1, for connection to wide area network
Direct sensor ports	4, for connection to Cognex vision systems. Provides PoE for In-Sight Micro Series.
USB	3 Host USB 2.0 (480MB) ports
Status LEDs	Network, power

POWER

Voltage	24VDC ±10%
Current	2A maximum consumption when supplying PoE to four In-Sight Micro Vision Systems

MECHANICAL

Material	ABS plastic housing
Mounting	Panel-mount kit included. Accessory stand optionally available.
Dimensions	205.9mm (8.10in) W x 170.3mm (6.70in) H x 52.5mm (2.07in) D
Weight	860g (30.3 oz.)

ENVIRONMENTAL

Operating temperature	0°C (32°F) to 45°C (113°F)
Storage temperature	-30°C (-22°F) to 80°C (176°F)
Humidity	90%, non-condensing
Protection	NEMA 4 when properly panel-mounted
Shock	30G per IEC 68-2-27
Vibration	2G from 10-2000 Hz. Vibration per IEC 68-2-6

CERTIFICATIONS

CE, FCC, TUV SUD NRTL, RoHS

NOTES
1. Maximum frames per second is job-dependent and based on an 8ms exposure and a full image frame capture.

For more information, please visit
www.cognex.com

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