

## Line Scan Acquisition in In-Sight Package

*The In-Sight 5604 model unites line scan imaging and rugged In-Sight vision systems to give customers a powerful new way to capture images within a self-contained system. The In-Sight 5604 is a self-contained, high speed line scan system that provides an alternative method of acquiring images, expanding the number of applications that can be solved by the powerful tools in In-Sight Explorer.*

### In-Sight 5604 Highlights

Bringing the benefits of line scan acquisition to the In-Sight product family, the following highlights the capabilities of this exciting model:

- High speed image acquisition of 45,000 lines per second translates to 22 frames per second for full-size images.
- Two megapixel resolution images are built using 1024 pixel-wide imager and up to 2048 lines.
- Large 14 x 14 micron pixel size yields superior light sensitivity at microsecond exposure rates, dramatically reducing lighting needs.
- Built on the In-Sight 5600 platform, high performance 1 GHz DSP processing power quickly performs vision analysis on high resolution images.
- Built-in Ethernet port provides connectivity to the automation control system using the suite of Cognex Connect factory floor protocols.
- Accepts standard C and CS mount lenses for simple integration

### Software Support

The In-Sight 5604 vision system is quickly configured by users from the EasyBuilder® View in In-Sight Explorer software. For more advanced applications, the Spreadsheet View provides a powerful, integrated environment without requiring users to learn complex programming or scripting. Plug-and-go operator display is achieved through the VisionView® Operator Interface Panel, ensuring visual support for systems on the factory floor.



### Broad Range of Applications

Since line scan acquisition builds an image line by line, only a sliver of the object you want to inspect needs to be visible at any given time to the line scan camera. As the product moves past the camera, new lines are acquired until the full image (total number of lines) is built to reveal the full product view. This presents a number of advantages over area scan cameras, as illustrated in the following application descriptions.

- *Unwrap cylindrical objects for inspection:* Ensure bottles, jars, cans and vials are properly manufactured, free of defects, and correctly labeled.
- *Space-constrained environment:* Since line scan needs only a few centimeters gap in the production line, vision inspection can be added to a crowded, existing line.
- *High speed applications:* Building full resolution images at 22 frames per second makes high resolution defect inspection a reality, even on high speed equipment.

### Advantages

- High performance system with speed image acquisition
- Enables 360° product inspection
- Reduces complexity & expense of uniformly lighting entire part
- Reduces vision footprint on manufacturing line to a sliver

## In-Sight 5604 Specifications

### Minimum Firmware Requirement

In-Sight version Release 4.3.1 or later

### Memory

Job/Program 64 MB FLASH memory, unlimited storage via remote network device

Image Processing 128 MB

### Image

Sensor 1-inch CCD  
 Sensor Properties 14.3 mm x 14 μm active area, 14 μm x 14 μm pixels  
 Resolution 1024 x 1 (CCD); 1024 x 2048 (up to 2048 lines for full resolution image)  
 Acquisition 45K lines per second  
 Line scan integration  
 256 grey levels (8 bits/pixel)  
 Gain/offset controlled by software  
 Lens Type C-mount

### I/O

Trigger 1 opto-isolated, acquisition trigger input. Remote software commands via Ethernet and RS-232.  
 Discrete Inputs None built-in. Additional inputs available using In-Sight I/O module (part number CIO-MICRO). Unlimited inputs when using an Ethernet I/O system.  
 Discrete Outputs 2 Built-in, high-speed outputs. Additional inputs available using In-Sight I/O module (part number CIO-MICRO).  
 Encoder Inputs 2 Built-in, encoder inputs for use with a 24V signal. Single and quadrature encoder signals supported.  
 Status LEDs Power, Network Status, Network Traffic, 2 user configurable.

### Communications

Network 1 Ethernet port, 10/100 BaseT, TCP/IP protocol. Supports DHCP or static IP address.  
 Serial RS-232C when connected to an option CIO-MICRO I/O module.

### Power

24VDC ± 10%, 350 mA maximum.

### Mechanical

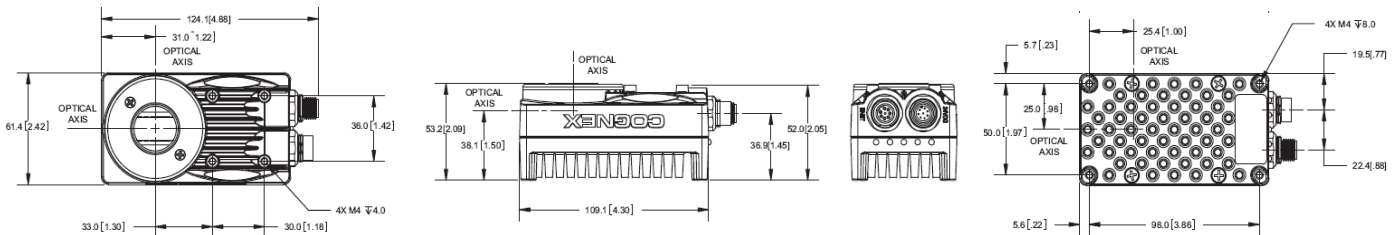
Material Die-cast aluminum housing.  
 Finish Painted/Powder coat (back plate).  
 Mounting Eight M4 threaded mounting holes (four front and four back).  
 Dimensions 53.2mm (1.50in) x 124.1mm (4.88in) x 61.4mm (2.42in)  
 Weight 454 g (16 oz.) without lens

### Environmental

Temperature Operating – non-circulating air: 0° to 45°C (32°F to 113°F)  
 Operating – circulating air: 0°C to 50°C (32°F to 122°F)  
 Storage: -30°C to 80°C (22°F to 176°F)  
 Humidity 95%, non-condensing (Operating and Storage)  
 Protection IP51  
 Shock 80 G Shock with 150 gram lens attached per IEC 68-2-27.  
 Vibration 10 G from 10-500 Hz with 150 gram lens per IEC 68-2-6.

### Certifications

CE, FCC, TUV SUD NRTL, RoHS



## COGNEX

### Corporate Headquarters

Cognex Corporation  
 One Vision Drive  
 Natick  
 MA 01760-2059  
 USA  
 Tel: 508-650-3000  
 Fax: 508-650-3344

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

### United States

Natick, Massachusetts 508-650-3000  
 Nashville, Tennessee 615-844-6158  
 Detroit, Michigan 248-668-5100  
 Chicago, Illinois 630-649-6300  
 Mountain View, California 650-969-4812

### Latin America

Monterrey, Mexico +52 81 5030-7258  
 Mexico City, Mexico +52 55 2789-7839

### Europe

Austria +43 (0)1 23060 3430  
 France +33 1 4777 1550  
 Germany +49 721 6639 0  
 Ireland +353 1 825 4420  
 Italy +39 02 6747 1200  
 Netherlands +31 402 668 565  
 Spain +34 93 445 67 78  
 Sweden +46 21 14 55 88  
 Switzerland +41 71 313 06 05  
 United Kingdom +44 1908 206 000

### Asia

China +86 21 6320 3821  
 India +91 80 4022 4118  
 Korea +82 2 539 9047  
 Singapore +65 632 55 700  
 Taiwan +886 3 578 0060

### Canada

905-634-2726

### Japan

+81 3 5977 5400