

IN-SIGHT 9902L LINE SCAN VISION SYSTEM

The In-Sight® 9902L 2K line scan smart camera is a high resolution self-contained vision system ideal for detailed inspections of large, cylindrical, or continuously moving objects. The 9902L acquires up to 16,000 lines of 2,000 pixels per line to produce a 32MP image that can be used to detect even the smallest features and defects. Each pixel line is acquired at 67,000 lines per second to keep up with the fastest production lines. This standalone vision system only requires a small view of the target part, making it an ideal choice for installations with restrictive field of view or mounting space requirements.

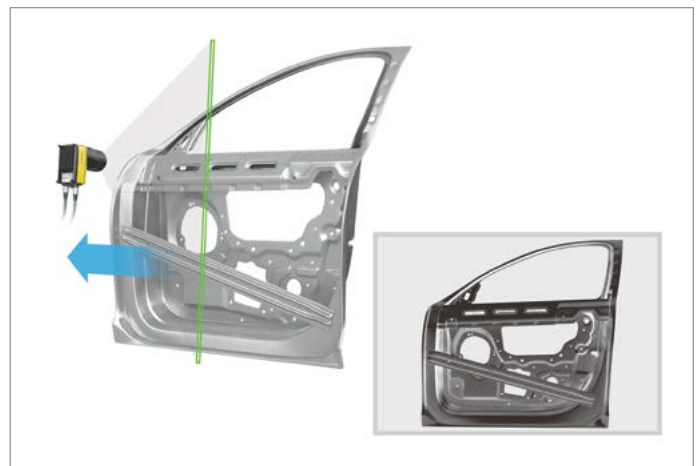
The only self-contained line scan system

The In-Sight 9902L is the only embedded industrial line scan system that processes images directly on the camera. Onboard processing eliminates the inconvenience of having to install a separate controller. Plus, the IP67-rated housing protects the system from liquids and dust without the need for an external enclosure.

Inspects long, cylindrical, and continuously moving parts

Line scan cameras are an ideal choice for inspecting oversized or cylindrical objects on fast-moving production lines. There are many applications for line scan, the most common including:

- Cylindrical objects, such as automotive filters and batteries, where 100% of the product's surface can be inspected as it rotates along the production line
- Label inspection on curved surfaces, such as soup cans or bottles wrappers, that can be "unrolled" into a 2D flat surface for inspection
- Large objects, such as solar cells and car door panels that can be imaged and inspected as a whole



Fast, high resolution image acquisition

The In-Sight 9902L has a blazing fast 67 kHz line rate, acquiring each line of data in under 15 microseconds. Capturing 2,000 pixels with each line, the camera delivers 32MP images (16,000 lines) that enable vision tools to perform highly detailed inspections.



Integrates easily into your system infrastructure

Like all In-Sight vision systems, the In-Sight 9902L uses In-Sight Explorer software with EasyBuilder® to set up and monitor machine vision inspections. The intuitive interface guides operators through a step-by-step setup process allowing both novice and experienced users to configure vision applications quickly and easily.

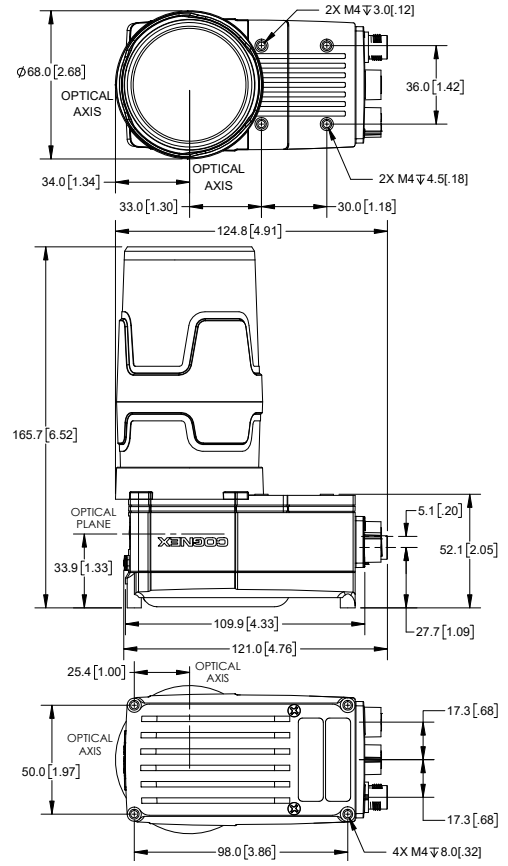
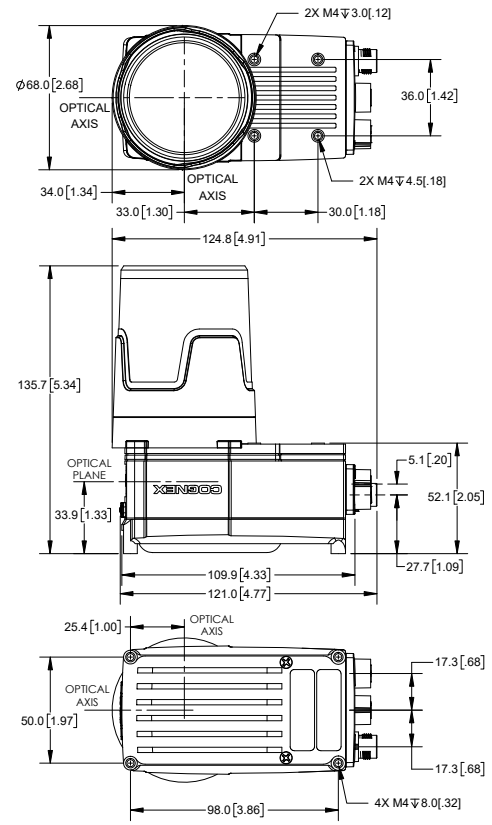
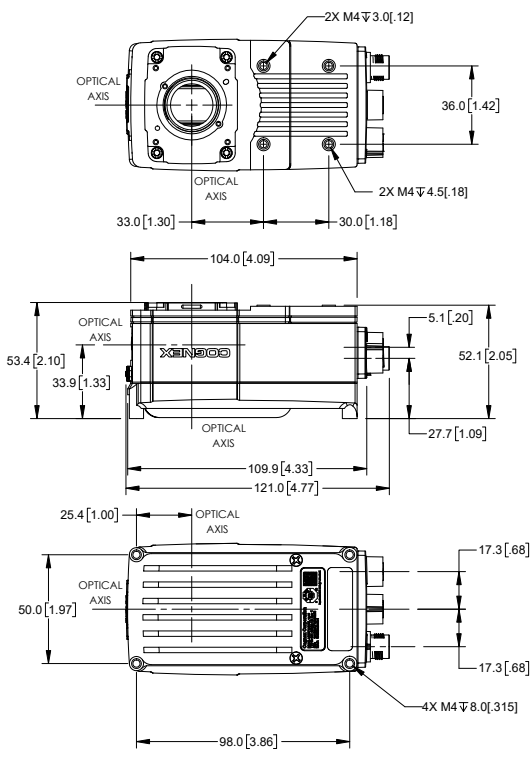
While many applications can be solved using the point-and-click EasyBuilder interface, users can access the In-Sight spreadsheet for ultimate control through direct access to the vision tools and communication options. Access to the spreadsheet not only provides programming flexibility to make essential adjustments, it also offers assurance that you will be able to solve any vision application.

The screenshot displays the In-Sight Explorer software interface. The main window shows a vision application for inspecting a can of Bob's Potato Soup. The interface includes a 'Nutrition Facts' panel on the left, a central image of the soup can with a green bounding box around the label, and a 'Results' table at the bottom. A callout window shows a 'Freshness Date' of 10-01-20 and a barcode.

Name	Result	Pass	Fail
Pattern_1	(1552.6,2387.1) 0.0° score = 98.7	0/0	0/0
IDCode_1	8100010539	0/0	0/0
IDCode_2	9999-01234-05	0/0	0/0
Text_1	(8100) 10539	0/0	0/0
Text_2	10-01-20	0/0	0/0
Pattern_2	Present (98.840)	0/0	0/0

The screenshot displays the In-Sight Explorer spreadsheet view, showing a detailed configuration table for the vision application. The table includes columns for tool names, parameters, and values.

Tool Name	Parameter	Value
1	8193.906	0.000
2	Trigger	Line Delay Trigger Impl Exposure (secs)
3	Camera	0.000
4	Line Trigger	0.000
5	Line Trigger Number Of Steps Part Line Period Clip Mode	Acquisition 2005/2010 06:41:13.444
6	Encoder	4900
7	0.000	0.000
8	0.000	0.000
9	0.000	0.000
10	0.000	0.000
11	0.000	0.000
12	0.000	0.000
13	0.000	0.000
14	0.000	0.000
15	0.000	0.000
16	0.000	0.000
17	0.000	0.000
18	0.000	0.000
19	0.000	0.000
20	0.000	0.000
21	0.000	0.000
22	0.000	0.000
23	0.000	0.000
24	0.000	0.000
25	0.000	0.000
26	0.000	0.000
27	0.000	0.000
28	0.000	0.000
29	0.000	0.000
30	0.000	0.000
31	0.000	0.000
32	0.000	0.000
33	0.000	0.000
34	0.000	0.000
35	0.000	0.000
36	0.000	0.000
37	0.000	0.000
38	0.000	0.000
39	0.000	0.000
40	0.000	0.000
41	0.000	0.000
42	0.000	0.000



IN-SIGHT 9902L SPECIFICATIONS

Image Type	Monochrome
Job/Program	7.2 GB non-volatile flash memory
Image Processing Memory	512 MB SDRAM
Additional Storage	8 GB SD card, network drive via FTP over gigabit network
Sensor Type	CMOS, global shutter
Resolution (pixels)	2048 x 1; 2048 x 16384 (up to 16384 lines) software configurable, or 1024 x 1; 1024 x 16384 (up to 16384 lines) software configurable
Line Rate	66 K lines per second
Lens Type	C-mount only
Indicator LEDs	SD card status, pass/fail LED and 360° viewing indicator ring, network LED, and error LED
Built-in IO	1 dedicated trigger in, 1 input, 2 outputs
Encoder Input	2 encoder line inputs for quadrature support
Encoder Input Voltage	5–24 VDC
Power	24 VDC
Industrial M12 Connectors	Power/IO; Ethernet; External light power/control (N/A)
Protection	IP67 with C-mount lens cover
Network Communications	1G (1000)/100/10 Mbps
IEEE 1588 Support	Timestamp resolution: 8 ns; Synchronization accuracy through transparent clock: 5 ns
Rockwell Add-on Profile	Yes
Vision Tools	Full vision tool suite with PatMax. Optional PatMax RedLine tool.

COGNEX

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

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