IN-SIGHT 7000 SERIES VISION SYSTEM

The In-Sight® 7000 series vision system represents a breakthrough in flexibility, performance and ease of integration. This powerful vision system performs fast, accurate inspections while its compact footprint easily fits into space-constrained production lines. The unique, modular design is highly field-customizable to your application requirements.

Enhanced performance keeps pace with increasing line speeds

With ever-increasing production line speeds, customers no longer have to choose between high-speed and industrial performance—the In-Sight 7000 offers both! With blazing fast acquisition and industry leading vision tools, including PatMax RedLine,® SurfaceFX,™ OCRMax,™ PowerGrid,® Hotbars,® and color ID tools, the In-Sight 7000 vision system quickly locates the part and accurately performs the necessary inspection.

Flexible design is field customizable to your application

When it comes to factory automation, one size rarely fits all. That's why the In-Sight 7000 is designed with Flexible Image Technology™ (FIT™) that optimizes image formation and minimizes the need for expensive external lighting. Field-changeable and user-configurable lighting and optics modules provide users with ultimate flexibility to customize the system for their application.

Base unit

Lens options

Internal lighting options

Filter options

Cover options

Full-featured system to tackle a wide range of vision applications

The In-Sight 7000 vision system is engineered with the full suite of powerful Cognex vision algorithms and convenient features to help you solve your applications easily and reliably.

Suite of enhanced vision tools including PatMax RedLine, SurfaceFX, OCRMax, PowerGrid, Hotbars, and color ID tools for rapid part location and inspection.

Onboard SD card for additional data storage and easy transfer of job files between systems.

Extended heat sink on In-Sight 7905 5MP high resolution model.

Flexible Image Technology (FIT) optimizes image formation and minimizes the need for expensive external lighting.

Wrap-around LED indicator light provides clear visual pass/fail inspection results that can be seen from a distance regardless of product orientation.

Field changeable C-mount and S-mount lenses and an autofocus option for best image resolution based on working distance.

IP67-rated housing provides protection in harsh factory environments.

Additional internal lighting options

In addition to other small form factor lights, the In-Sight 7000 is compatible with the high-powered integrated lighting module (HPIL) used with DataMan® 360 series barcode readers. The high-powered integrated lighting module offers diffuse illumination ideal for inspecting parts at varying working distances (Not supported on 5MP model.)
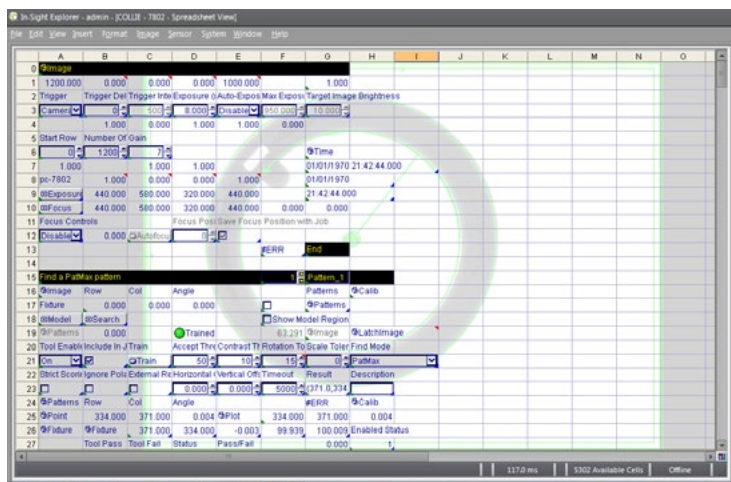
Integrates easily into your system infrastructure

Like all In-Sight vision systems, the In-Sight 7000 uses In-Sight Explorer 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.

The majority of applications can be solved using the point-and-click EasyBuilder interface, however should your application requirements change, the In-Sight spreadsheet provides you with 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 of your vision applications.
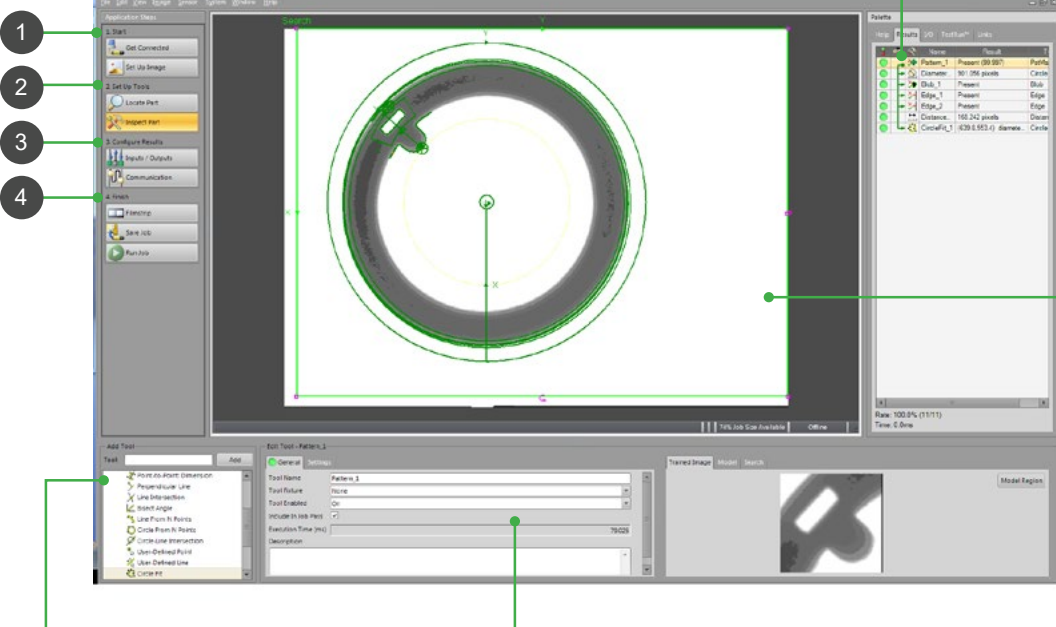
cognex.com/easybuilder

In-Sight spreadsheet provides ultimate control and direct access to vision tools.

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

Results table—Consolidates tool results for easy viewing and helps users understand tool dependencies and performance timing.

Four simple steps guide you through the setup process.

Image centric—Point-and-click approach lets users drop in tools quickly by simply clicking on the features of interest.
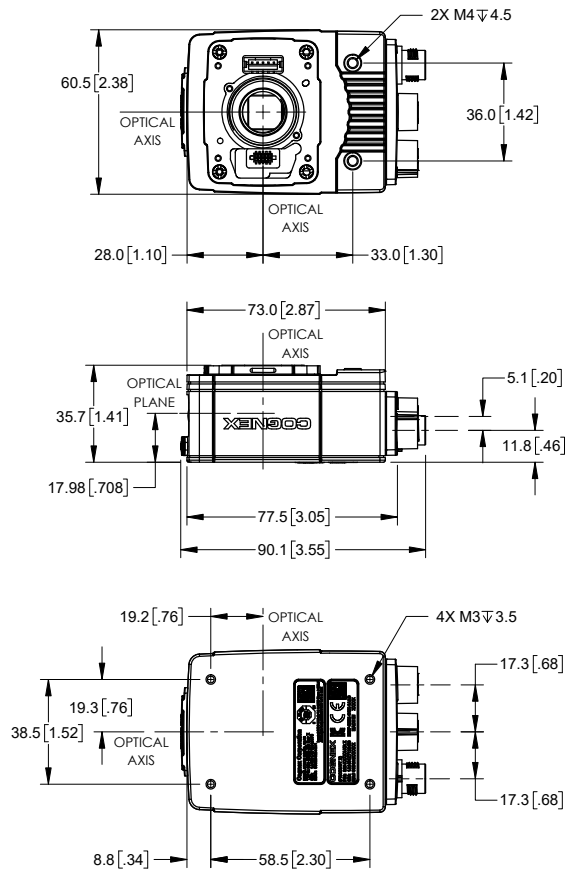
Tools palette—Comprehensive set of vision tools for locating, measuring, counting and identifying features, plus math, logic, geometry and graphic display tools.

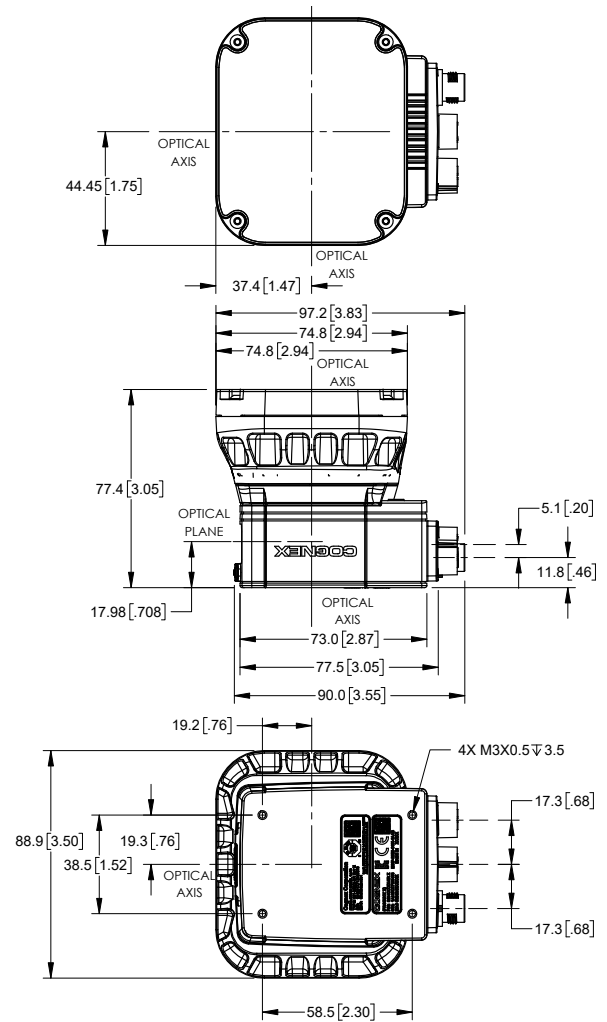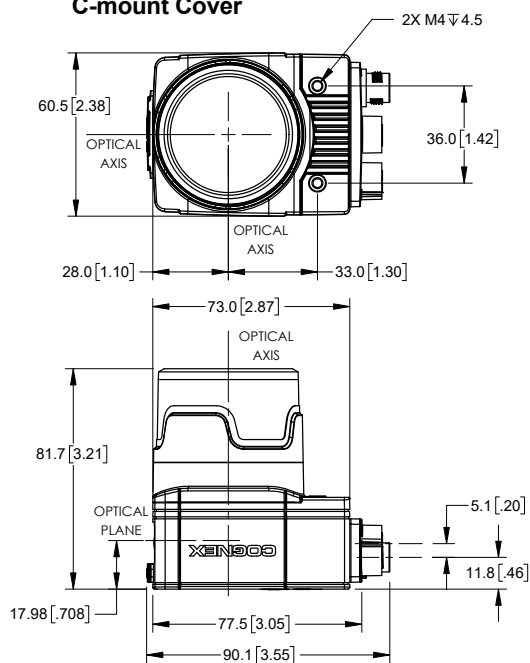**Settings pane**—Configures all vision tool parameters and settings.
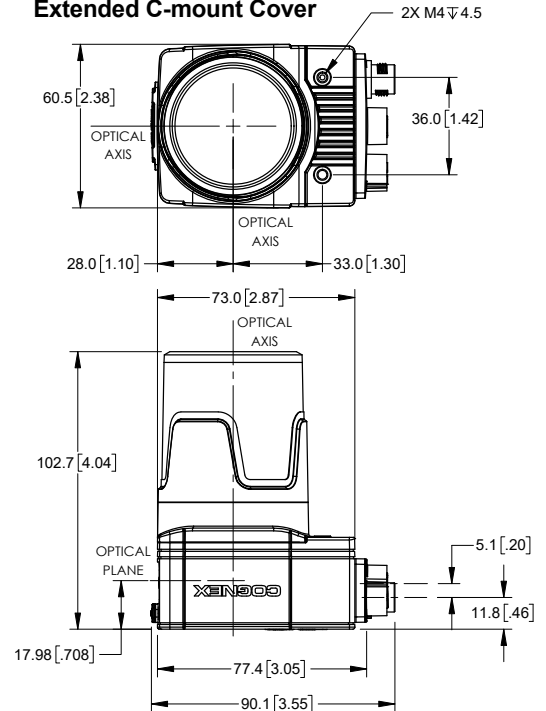
In-Sight 7000 Base Unit
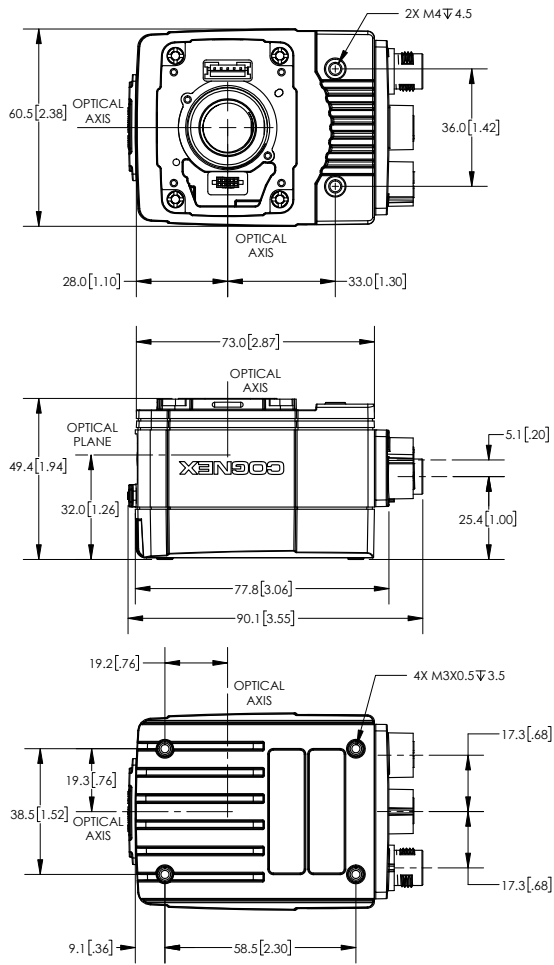

In-Sight 7000 with Internal Lighting
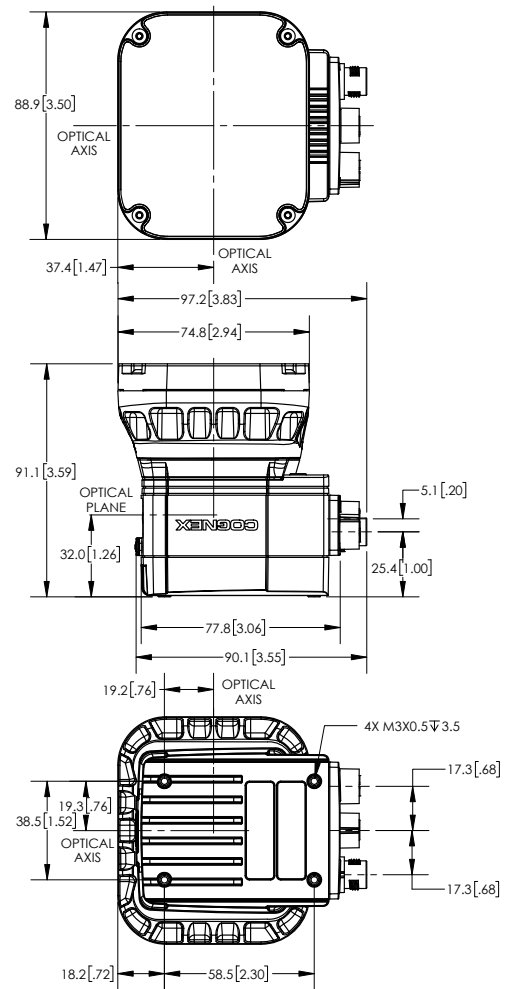

In-Sight 7000 with C-mount Cover

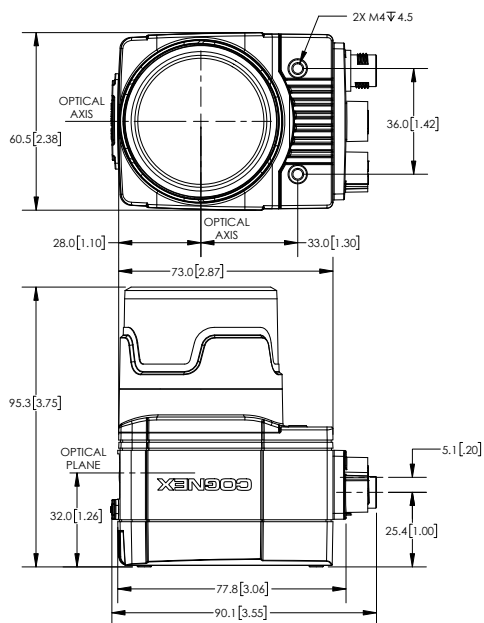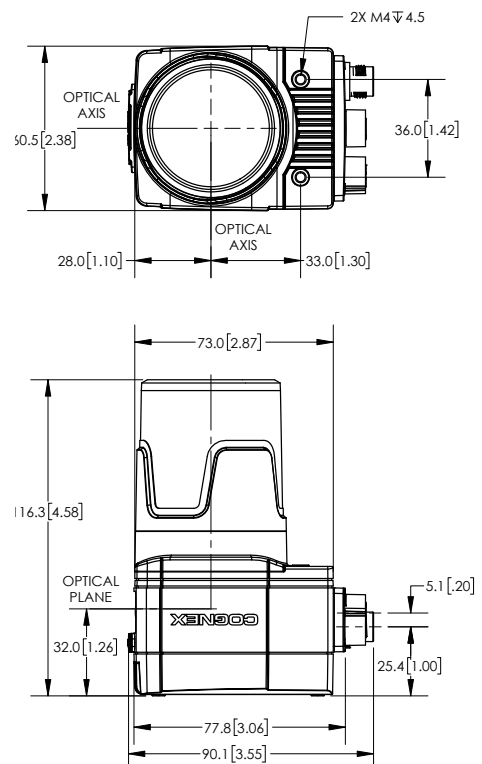## In-Sight 7000 with Extended C-mount Cover

In-Sight 7905 Base Unit

In-Sight 7905 with Internal Lighting

In-Sight 7905 with C-mount Cover

In-Sight 7905 with Extended C-mount Cover

SPECIFICATIONS

	7500	7501	7600	7800	7801	7802	7802P	7900	7901	7902	7902P	7905
Image Type	Monochrome and color						Mono-chrome	Monochrome and color			Mono-chrome	Monochrome and color
Performance Factor	0.6x	1x	2.3x					2.5x				
Job/Program Memory	7.2 GB on board + 8 GB on SD card											
Image Processing Memory	512 MB SDRAM											
Sensor Type	CMOS, global shutter											
Resolution (pixels)	640 x 480/ 800 x 600[1]	1280 x 1024	640 x 480/ 800 x 600[1]		1280 x 1024	1600 x 1200	1920 x 1200	640 x 480/ 800 x 600[1]	1280 x 1024	1600 x 1200	1920 x 1200	2448 x 2048
Acquisition Rate (fps) — Monochrome	217/165	76	217/165		76	53	55	217/165	76	53	55	32
Acquisition Rate (fps) — Color	135/100	45	135/100		45	33	n/a	135/100	45	33	n/a	17
HDR Support	No	No	No	No	No	No	Yes[2]	No	No	No	Yes[2]	Yes[2]
Lens Type	C-mount, S-mount/M12, Autofocus											
Light Options	Internal light, DataMan 360 light, external light powered by In-Sight or external light independent power											Internal light, external light powered by In-Sight or external light independent power
Internal Light Color	Red, white, IR, or blue											
Indicator LEDs	SD card status, pass/fail LED, 360-degree viewing indicator ring, network LED and error LED											
Built in IO	1 dedicated trigger in, 1 input, 2 outputs, 2 bi-directional/configurable, and RS-232. Additional I/O available via external I/O modules: CIO-MICRO or CIO-1400											
Power	24 VDC											
Industrial M12 Connectors	3: Power and I/O, Ethernet, and External light power/control											
Protection	IP67 with internal light option or C-mount lens cover											
Network Communications	1G (1000)/100/10 Mbps											
Industrial Protocols	OPC UA, EtherNet/IP with AOP, PROFINET Class B, iQSS, CC-Link IE Field Basic, SLMP/SLMP Scanner, Modbus TCP, IEEE 1588 (CIP Sync)											
General Protocols	TCP/IP, UDP, FTP, SFTP, Telnet, SMTP, RS-232											

[1] Software configurable

[2] HDR supported on Monochrome models only

Note: All models (except 7500/7501) have full vision tool suite with PatMax, PowerGrid, and Hotbars. PatMax RedLine tool is optional.

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