

COGNEX

Advanced machine vision made easy

The highest-performance AI vision system

In-Sight 3900



Powering high-throughput, high-accuracy inspections with Edge and Advanced AI

In-Sight® 3900

High speed, no trade-offs

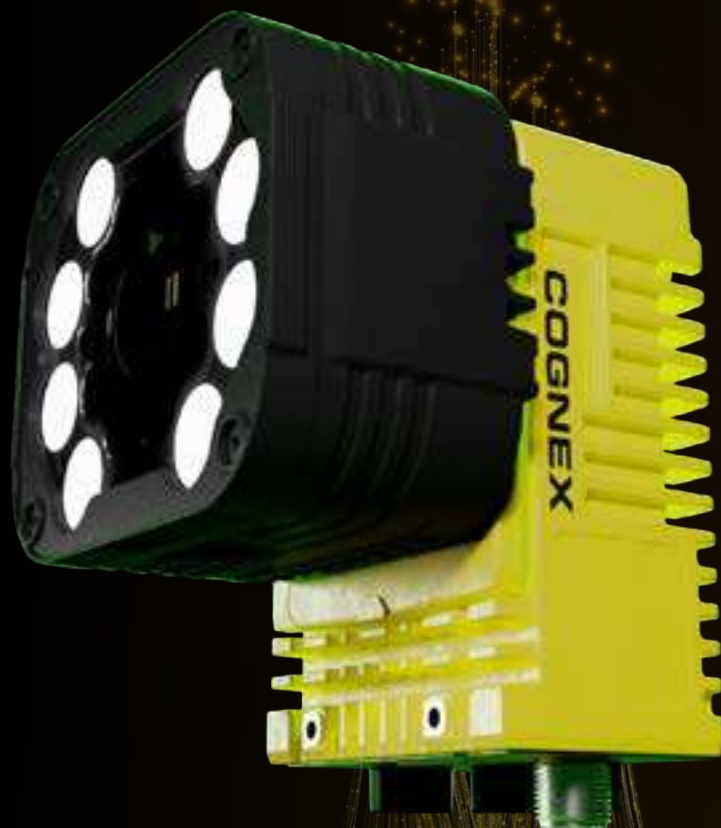
- Runs inspections on high-speed, high-throughput lines, up to 5,000 parts per minute
- Inspects more features on every part, without slowing production
- Supports real-time decision making with a powerful computing architecture built to handle high-resolution images (25 MP)

The most powerful embedded AI

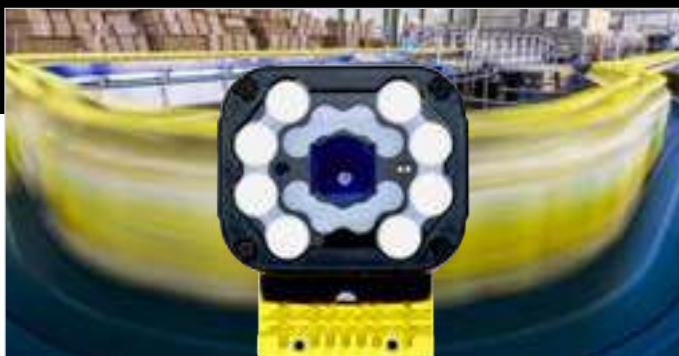
- Solves a broader range of inspections than competitive offerings
- Delivers industry-leading accuracy for optimized quality assurance
- Handles both standard and complex inspections

Consistent user experience, fully integrated portfolio

- Unified software streamlines integration across production lines and facilities
- Point-and-click setup and advanced programming offer flexible deployment options
- Industry's largest set of vision tools enables application-specific configuration

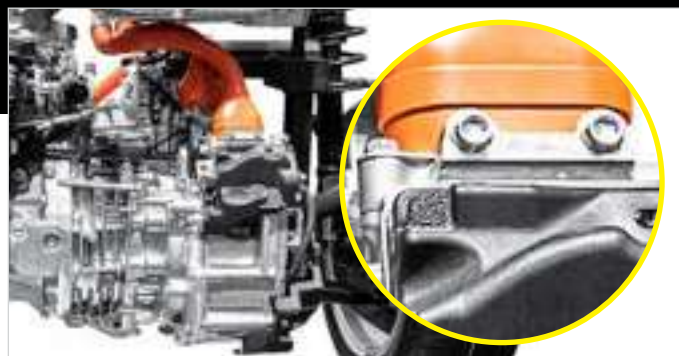


Key Features



4X Faster Processing*

State-of-the-art embedded computing runs inspections up to 4X faster than other vision systems to maximize line rates and eliminate bottlenecks in high-volume production environments.



High-Resolution Imaging Up to 25 MP

High-resolution global shutter sensors and high-precision lenses deliver superior inspection accuracy and expanded field-of-view coverage, capturing subtle details and defects with extreme clarity.



Powerful and Flexible Integrated Lights

Built-in RGBW and IR lighting optimizes contrast in challenging inspection environments, while software-driven color switching eliminates manual filter changes and reduces reliance on complex external lighting.



Advanced Imaging Algorithms

A proprietary accelerated processing architecture captures optimal images in a single acquisition at maximum frame rates. Multi-directional shadow analysis removes background noise and glare to isolate surface defects such as scratches, dents, and residues.



High-Performance Dual Ethernet Architecture

A dedicated Ethernet chip supports both EtherCAT and industrial Ethernet for real-time synchronization with high-speed PLCs and motion controllers. A 2.5 Gb data communication port enables rapid offloading of high-resolution images and inspection data.

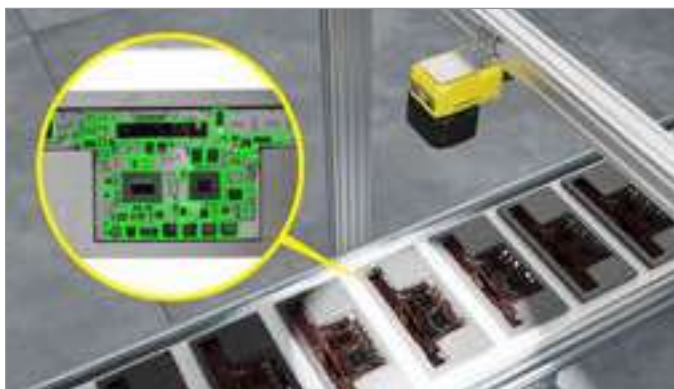


More Memory for Smarter Performance

Expanded job processing memory – 2X the previous generation (8 GB RAM) – powers industry-leading Edge AI and Advanced AI tools. Expanded job and image storage – 8X the previous generation (128 GB flash) – enables faster changeovers and preserves days of images for traceability and root-cause analysis.

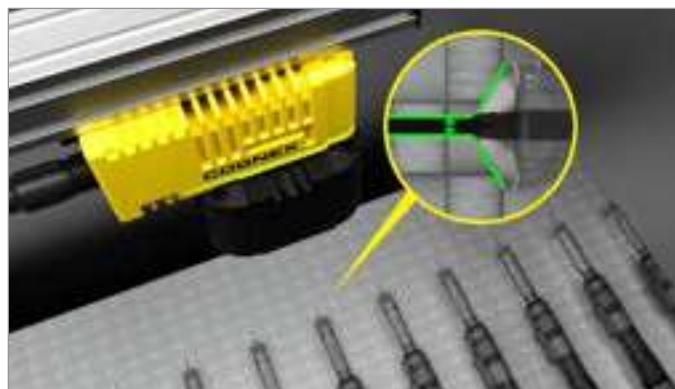
*4X faster than previous-generation Cognex vision systems for all tools, 4X faster than competitive solution for rule-based tools.

Application Examples



Assembly Verification

Verify correct PCB assembly by inspecting multiple regions of interest simultaneously to confirm component presence, placement, and orientation.



Measurement and Alignment

Ensure injectors are assembled correctly by confirming needles are fully seated and properly aligned before final processing.



Defect Detection

Detect subtle stitching defects on automotive seats by identifying inconsistencies, gaps, or irregular patterns on challenging materials.



Optical Character Reading (OCR) and Barcode Scanning

Read text and barcodes on labels and final packaging at high speeds to ensure traceability, even on curved, reflective, or transparent surfaces.



Robotic Guidance

Locate and identify parts in variable positions within feeder bins to enable accurate, repeatable robotic pick-and-place operations.



Seal Inspection

Inspect transparent and hard-to-see package seals at high speeds, detecting bubbles, bumps, and seal defects on food, beverage, and CPG lines.

Maximum Speed, Complete Coverage, Zero Loss in Throughput

In-Sight 3900 eliminates the tradeoff between inspection time and production speed, allowing manufacturers to deploy full-coverage inspections without impacting cycle times.

Unmatched Processing Power

4X faster processing and double the job processing memory enable users to execute a higher volume of AI and rule-based inspections within a single trigger window, delivering comprehensive quality checks at full line speed.

High-Performance Dual Ethernet Architecture

Dual Ethernet ports deliver deterministic communication with PLCs and motion controllers for real-time response and immediate rejection of non-conforming parts. Built-in support for enterprise connectivity, including MQTT, enables seamless data exchange with higher-level systems for monitoring, analytics, and traceability.

Next-Generation Processor with AI Engine

A high-performance processor with a multi-core CPU and dedicated AI engine accelerates inspections and delivers fast feedback for real-time decision-making across manufacturing environments.

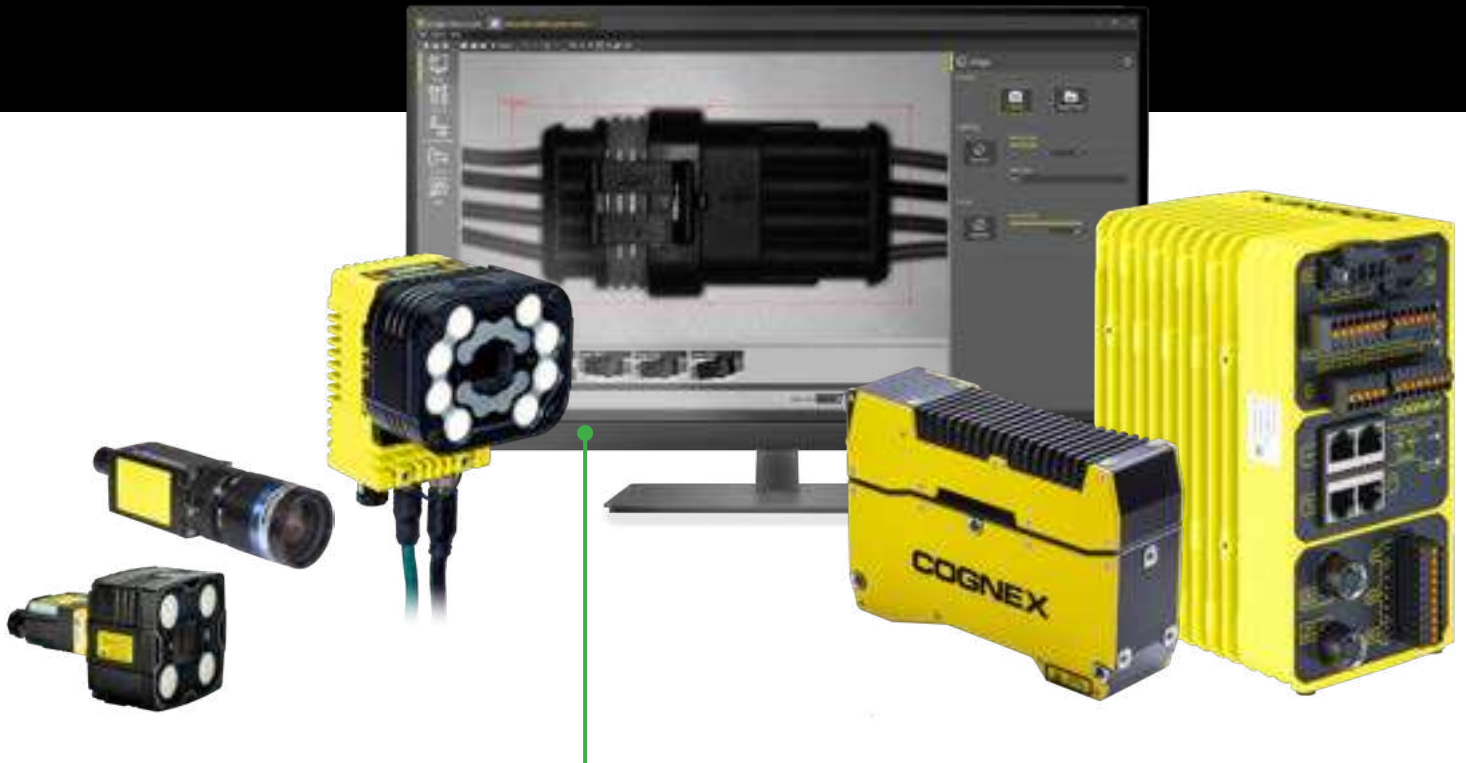


Powered by  Qualcomm
Dragonwing

Scalable compute, AI acceleration, multi-gigabit connectivity, and power-efficient design enable In-Sight 3900 to handle complex edge workloads.

Powerful, Scalable Vision Designed to Work Across Every Device and Application

The In-Sight portfolio provides a consistent user experience by integrating hardware and software into a single, future-proof platform. From setup to deployment, it offers unified software, flexible development and programming options, and a comprehensive suite of AI and rule-based tools, delivering scalable automation that grows with business needs.



Unified Software Architecture

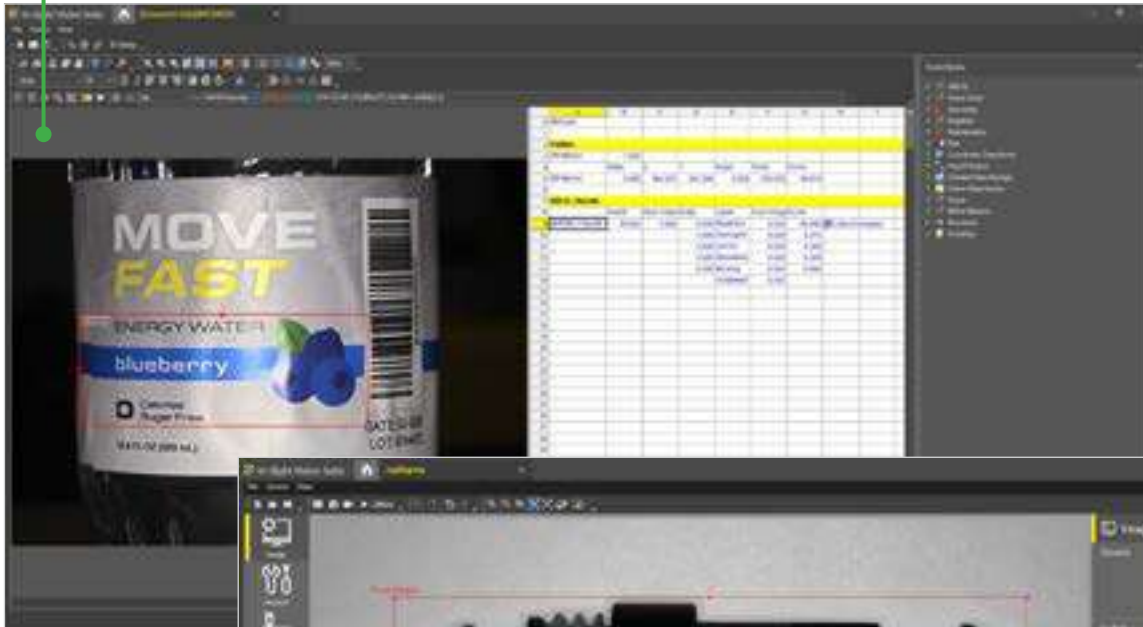
Standardized In-Sight Vision Suite

The In-Sight Vision Suite provides a universal software foundation across the entire In-Sight product line. A standardized development environment simplifies deployment and enables manufacturers to scale quickly from basic inspections to complex, high-performance applications.

Spreadsheet Environment

Full Logic Customization and Control

A flexible, cell-based architecture for advanced developers who require precise control over inspection parameters. Fine-tune tools and communication triggers to support specialized factory integration.



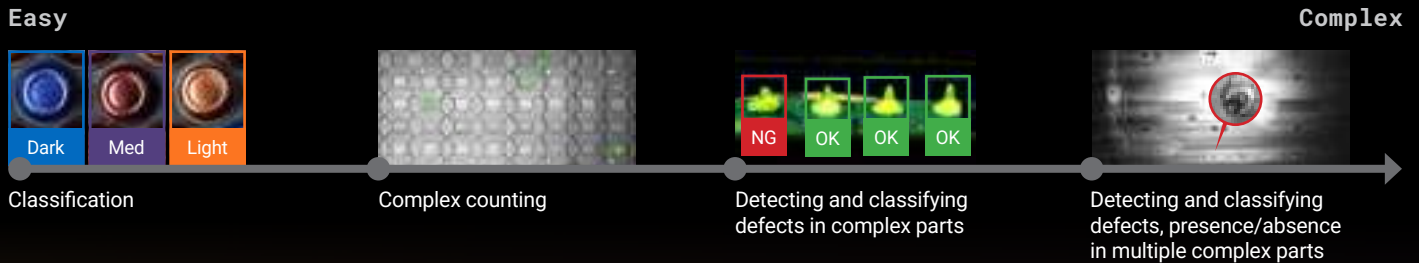
EasyBuilder® Environment

Intuitive, Step-by-Step Configuration

A streamlined, point-and-click interface enables rapid setup and high-speed deployment without the need for programming expertise.

More Application Coverage with Advanced AI

OneVision extends the capabilities of the In-Sight 3900 with access to Advanced AI tools, enabling it to solve a wider range of inspection applications than competitive solutions.



OneVision: Collaborative AI Vision, at Scale

OneVision brings model development, cross-site collaboration, and multi-device deployment together in a single development environment, allowing manufacturers to train centrally, adapt locally, and run high-performance AI inspections on any Cognex device.

Advanced AI, intuitive UI

Build powerful AI applications, without complexity

Collaborate effectively, get better results

Transform AI development from a siloed activity into a cross-team process

Scale fast, deploy anywhere

Ensure consistent performance across devices, lines, and sites



Cloud-to-Edge Architecture

Integrated AI Vision Development and Deployment

In-Sight Vision Suite, OneVision, and In-Sight vision systems form an integrated cloud-to-edge architecture that enables seamless development, deployment, and continuous improvement of AI-powered applications.

Advanced AI Training and Model Management

OneVision

- Train, validate, and optimize Advanced AI models in a secure environment
- Manage projects centrally, across different lines or sites



Application Development and Deployment

In-Sight Vision Suite

- Configure tools and applications
- Access OneVision for Advanced AI training



Image Acquisition and Edge Execution

In-Sight Vision System

- Capture images for application development
- Execute AI models and run inspections at production speed

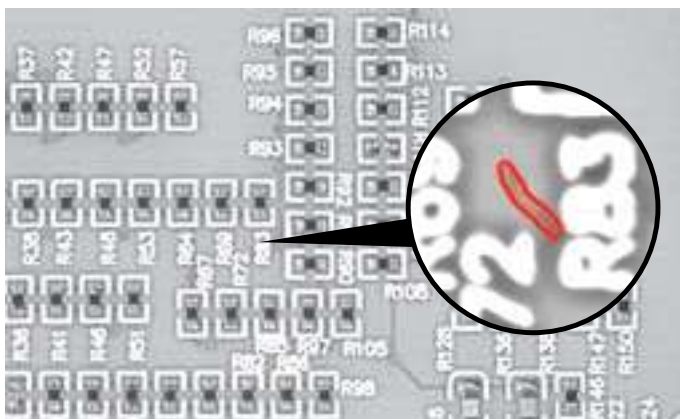


Comprehensive Vision Tool Library

The In-Sight 3900 offers the industry's largest set of AI and rule-based vision tools to meet a wide range of inspection needs. Tools can be used individually or chained together to handle all inspection types, while delivering consistent, repeatable results across production lines.

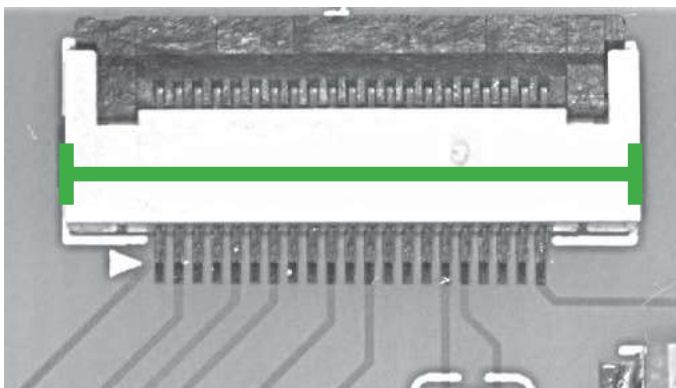
Edge AI Tools

Designed for fast, simple deployment, Edge AI tools use pre-trained models and minimal training images to perform standard inspections such as defect detection, classification, assembly verification, and OCR.



Advanced AI Tools*

Designed for customization and control, Advanced AI tools use configurable models and larger datasets to address complex inspections with high variability, subtle defects, and highly customized requirements.



Rule-Based Tools

A complete library of industry-proven, rule-based vision tools for precise, deterministic applications, including measurement, blob analysis, pixel count and pattern matching, 1D/2D code reading, robotic guidance, and math and logic.

*Available on OneVision-enabled models

In-Sight 3900 Features



Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries.

Modular Optics and Lighting Ecosystem

A curated portfolio of lenses — including telecentric lenses — and lighting integrates seamlessly with the In-Sight 3900 to support advanced applications requiring higher performance or customization. These modular options can be tailored to specific inspection needs, optimizing each configuration for superior image quality, higher accuracy, and consistent, repeatable results.

- Standard Lenses
- Telecentric and Bi-Telecentric Lenses
- Back Lights
- Bar Lights
- Brick Lights
- Coaxial Lights
- Ring Lights



Optimized Imaging Built to Capture Every Detail

Advanced lighting and imaging technologies provide higher inspection accuracy, even in the most demanding machine vision applications.

SurfaceFX Feature Extraction

Advanced feature extraction isolates subtle surface-level defects and suppresses background noise, reflections, and glare through multi-directional shadow analysis for reliable inspection of complex surfaces.



Without SurfaceFX™: Embossed features are not visible.



With SurfaceFX: Noise is removed and embossed features are visible.



Without HDR: Embedded parts are unclear.



With HDR+: Serial code and bearings are both visible.

HDR+ Technology

High-Dynamic Range Plus (HDR+) automatically balances exposure to create uniform, high-contrast images in a single acquisition.

- **Enhanced Depth-of-Field:** Maintains focus and detail across varying part heights, outperforming conventional sensors.
- **80% Faster Exposure Times:** Reduces exposure time during acquisition to support ultra-high-speed lines while maintaining throughput.
- **No Added Acquisition Time:** Accelerated processing delivers enhanced performance without increasing acquisition time.

Multi-Color Lighting

Multi-color lighting optimizes contrast in challenging environments, including low-light conditions, glare, and low-contrast surfaces, while one-click color switching delivers higher-quality images and more accurate inspections with minimal setup.



Actual part



Red light:
Numbers are unclear



Blue light:
Numbers are clear

In-Sight 3900 Series Specifications

For full technical specifications, refer to the In-Sight 3900 Reference Manual available on support.cognex.com.

Image Sensor	IS3901M	IS3901C	IS3905M	IS3905C
Bit Depth	8-bit monochrome	24-bit color	8-bit monochrome	24-bit color
Frames per Second (Maximum at Full Resolution)	125 fps (250 fps binned)	125 fps	32 fps	32 fps
Sensor Type	1/2.3" CMOS, global shutter	1/2.3" CMOS, global shutter	2/3" CMOS, global shutter	2/3" CMOS, global shutter
Sensor Properties	6.3 mm diagonal, 3.45 x 3.45 µm square pixels	6.3 mm diagonal, 3.45 x 3.45 µm square pixels	11.1 mm diagonal, 3.45 x 3.45 µm square pixels	11.1 mm diagonal, 3.45 x 3.45 µm square pixels
Maximum Image Resolution (pixels)	1440 x 1080	1440 x 1080	2448 x 2048	2448 x 2048
Additional Selectable Image Resolutions (pixels)	720 x 540 (Binned) (0.4 mode)	N/A	2048 x 1536 (3 MP mode); 1440 x 1080 (1.6 MP mode)	2048 x 1536 (3 MP mode); 1440 x 1080 (1.6 MP mode)
Electronic Shutter Speed	19.5 µs to 200,000 µs	19.5 µs to 200,000 µs	19.1 µs to 200,000 µs	19.1 µs to 200,000 µs
Image Sensor	IS3916M	IS3916C	IS3925M	IS3925C
Bit Depth	8-bit monochrome	24-bit color	8-bit monochrome	24-bit color
Frames per Second (Maximum, Full Resolution)	28 fps	28 fps	21 fps	21 fps
Sensor Type	1.1" CMOS, global shutter	1.1" CMOS, global shutter	1.2" CMOS, global shutter	1.2" CMOS, global shutter
Sensor Properties	16.8 mm diagonal, 2.74 x 2.74 µm square pixels	16.8 mm diagonal, 2.74 x 2.74 µm square pixels	19.3 mm diagonal, 2.74 x 2.74 µm square pixels	19.3 mm diagonal, 2.74 x 2.74 µm square pixels
Maximum Image Resolution (pixels)	5320 x 3032	5320 x 3032	5320 x 4600	5320 x 4600
Additional Selectable Image Resolutions (pixels)	4096 x 3000 (12 MP mode); 2840 x 2840 (8 MP mode)	4096 x 3000 (12 MP mode); 2840 x 2840 (8 MP mode)	5320 x 3032 (16 MP mode); 4096 x 3000 (12 MP mode); 2840 x 2840 (8 MP mode)	5320 x 3032 (16 MP mode); 4096 x 3000 (12 MP mode); 2840 x 2840 (8 MP mode)
Electronic Shutter Speed	29.1 µs to 200,000 µs	29.1 µs to 200,000 µs	29.1 µs to 200,000 µs	29.1 µs to 200,000 µs

Vision System	
Job Processing Memory	8 GB
Lens Type	C-Mount, Cognex High Speed Liquid Lens Autofocus, or Cognex manual focus lens.
Trigger	1 opto-isolated, acquisition trigger input.
Discrete Inputs	1 opto-isolated, acquisition trigger input. Up to 3 general-purpose inputs when connected to the Breakout cable.
Discrete Outputs	Up to 4 high-speed outputs when connected to the Breakout cable.
Status LEDs	Pass/Fail LED and Indicator Ring, Network LED and Error LED, EtherCAT Status LEDs
High Speed Liquid Lens Lifespan	Number of Focus Cycles: 1800 M cycles
Job & Image Storage Memory	128 GB non-volatile flash memory; unlimited storage via remote network device.
Image Processing Memory	Dynamic Allocation shared with Job Processing Memory
Network Communication	2 Ethernet ports, 1Gb Port(ENET0) for Industrial Ethernet & Data Communication & Configuration and 2.5Gb Port(ENET1) for Data Communications & Configuration(No Industrial Ethernet). Both Support DHCP, static, and link-local IP address configuration. 10/100/1000/2500 BaseT with auto MDIX. IEEE 802.3 TCP/IP Protocol
Communication Protocols	Industrial Ethernet (PROFINET, EtherNet/IP, EtherCAT, SLMP, ModbusTCP) & Data Communication (MQTT, TCP/IP, (S)FTP, RS-232C)
Power Consumption	24 V DC ± 10%, 2.0 A maximum.
Power Output	24 V DC at 1.0 A maximum to external light.
Material	Die-cast aluminum and zinc housing.
Finish	Painted.
Mounting	Four M3 threaded mounting holes. See Accessories for supported mounts. Pattern: 38.5 × 58.5 mm (1.52 × 2.60 in)
Weight	In-Sight 3900 with no accessories attached: 768 g (27.1 oz). With 15 mm plastic C-Mount cover (COV-380-CMNT-15): 806 g (28.4 oz.) - no lens included. With 45 mm plastic C-Mount cover (COV-380-CMNT-45): 832 g (29.4 oz.) - no lens included. With 60 mm plastic C-Mount cover (COV-380-CMNT-60): 842 g (29.5 oz.) - no lens included. With 75 mm plastic C-Mount cover (COV-380-CMNT-75): 851 g (30.0 oz.) - no lens included. With Multi-Torch Illumination, High Speed Liquid Lens (16 mm), and standard front cover: 1010 g (35.6 oz.). With Multi-Torch Illumination, High Speed Liquid Lens (16 mm), and dome attachment: 1137 g (40.1 oz.). With Torch-HR Illumination, High Speed Liquid Lens (25mm): 2956 g (94.8 oz.)
Ambient/Environment Temperature	0° C to 40° C (32° F to 104° F)
Storage Temperature	-20° C to 80° C (-4° F to 176° F)
Humidity	<95% non-condensing
Protection	IP67 with all cables properly attached (or the provided connector plug installed), the IP67-rated cover, or Multi Torch attachment properly installed.
Shock (Packaging)	IEC 60068-2-27: 18 shocks (3 shocks in each polarity in each (X, Y, Z) axis) 80 Gs (800 m/s ² at 11 ms, half-sinusoidal) with cables or cable plugs and a 150 gram or lighter lens attached.
Vibration (Shipping and Storage)	IEC 60068-2-6: vibration test in each of the three main axis for 2 hours at 10 Gs (10 to 500 Hz at 100 m/s ² /15 mm) with cables or cable plugs and a 150 gram or lighter lens attached.
Regulations/Conformity	CE, FCC, KCC, TÜV SÜD NRTL, EU RoHS, China RoHS

Field of View Diagrams*

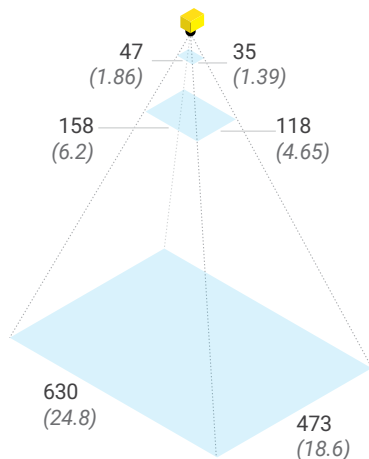
Working distances
Units: mm (in)

Minimum
150 (5.9)

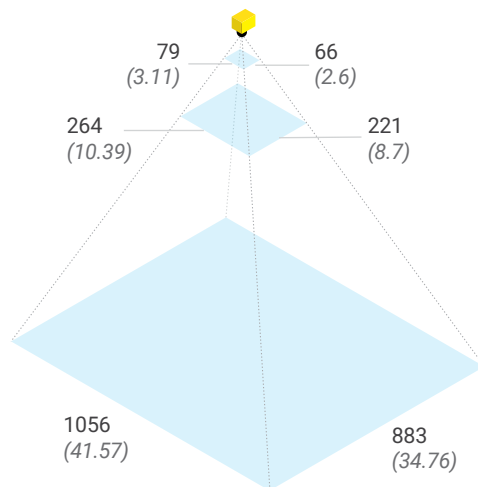
Midpoint
500 (19.7)

Maximum
2000 (78.7)

**1.6 MP with
16 mm lens**



**5 MP with
16 mm lens**



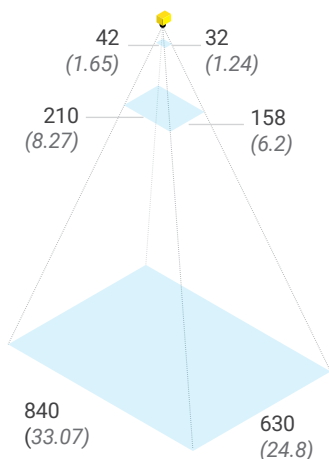
Working distances
Units: mm (in)

Minimum
200 (7.9)

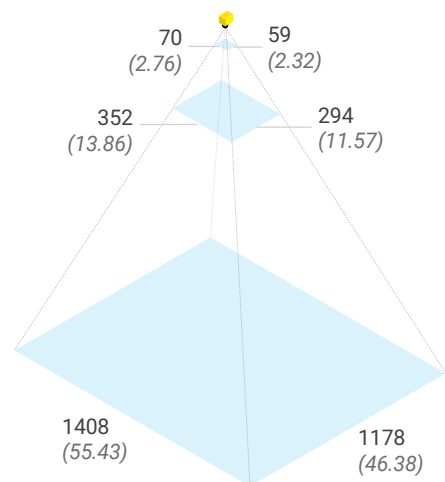
Midpoint
1000 (39.4)

Maximum
4000 (157.5)

**1.6 MP with
24 mm lens**



**5 MP with
24 mm lens**



* Field of view diagrams are based on the minimum and maximum focus distances of the High Speed Liquid Lens. If using a High Speed Liquid Lens with the Multi Torch light accessory, the system will perform best at distances between 150–500 mm (5.9–19.7 in) in terms of light intensity/uniformity.



Find the right lens for your application

The Cognex lens advisor makes it easy to select the right lens for your application. Plug in your specifications, hit “Calculate,” and let the advisor take care of the rest.

cognex.com/lens-advisor

Working distancesUnits: mm (*in*)**Minimum**

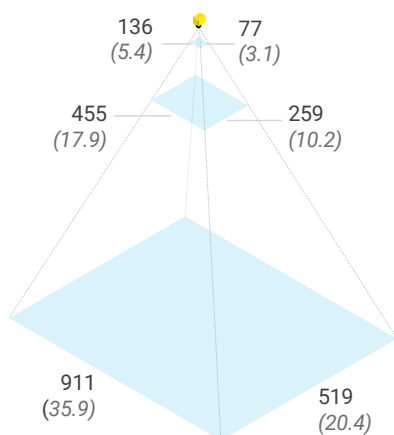
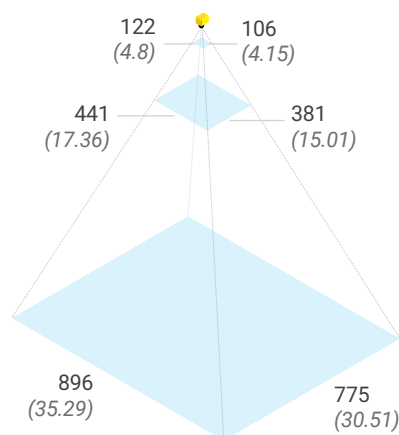
150 (5.9)

Midpoint

500 (19.7)

Maximum

1000 (39.4)

16 MP with 16 mm lens**25 MP with 16 mm lens****Working distances**Units: mm (*in*)**Minimum**

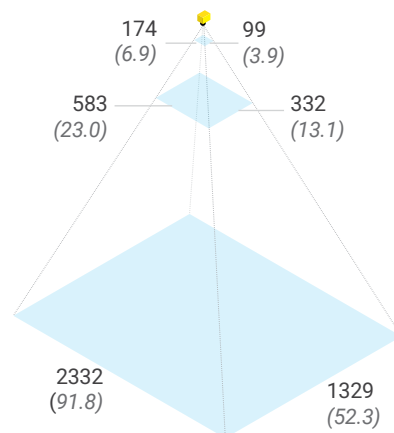
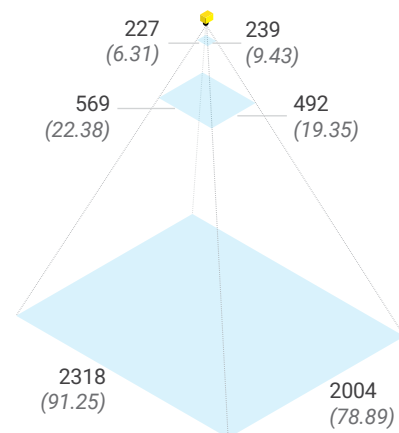
300 (11.8)

Midpoint

1000 (39.4)

Maximum

4000 (157.5)

16 MP with 25 mm lens**25 MP with 25 mm lens****Working distances**Units: mm (*in*)**Minimum**

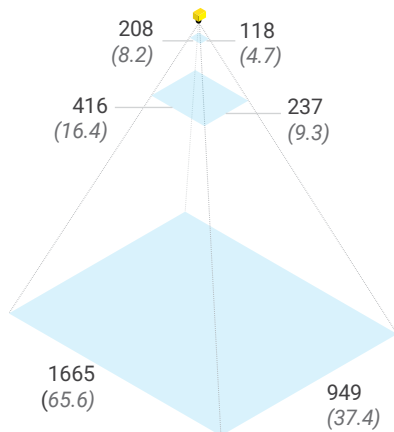
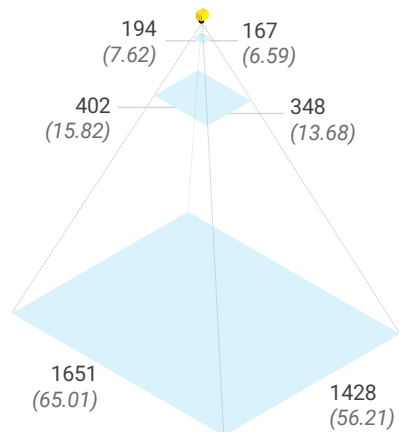
500 (19.7)

Midpoint

1000 (39.4)

Maximum

4000 (157.5)

16 MP with 35 mm lens**25 MP with 35 mm lens**

* Field of view diagrams are based on the minimum and maximum focus distances of the High Speed Liquid Lens. If using a High Speed Liquid Lens with the Multi Torch light accessory, the system will perform best at distances between 150–500 mm (5.9–19.7 in) in terms of light intensity/uniformity.

**Find the right lens for your application**

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cognex.com/lens-advisor

Product IDs and Descriptions*

In-Sight 3900						
ZPID(P/N)	Resolution	Mono/Color	Light	Lens	Cover	Toolset
IS3901C-00001-1V	1.6 MP	Color	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3901C-00001-SA	1.6 MP	Color	None	None	None	All Rule-Based & Edge AI Tools
IS3901C-14121-1V	1.6 MP	Color	Multi Torch	8 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901C-14121-SA	1.6 MP	Color	Multi Torch	8 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901C-14621-1V	1.6 MP	Color	Multi Torch	16 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901C-14621-SA	1.6 MP	Color	Multi Torch	16 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901C-14821-1V	1.6 MP	Color	Multi Torch	24 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901C-14821-SA	1.6 MP	Color	Multi Torch	24 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901C-14921-1V	1.6 MP	Color	Multi Torch	10 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901C-14921-SA	1.6 MP	Color	Multi Torch	10 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901M-00001-1V	1.6 MP	Mono	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3901M-00001-SA	1.6 MP	Mono	None	None	None	All Rule-Based & Edge AI Tools
IS3901M-14121-1V	1.6 MP	Mono	Multi Torch	8 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901M-14121-SA	1.6 MP	Mono	Multi Torch	8 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901M-14621-1V	1.6 MP	Mono	Multi Torch	16 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901M-14621-SA	1.6 MP	Mono	Multi Torch	16 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901M-14821-1V	1.6 MP	Mono	Multi Torch	24 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901M-14821-SA	1.6 MP	Mono	Multi Torch	24 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3901M-14921-1V	1.6 MP	Mono	Multi Torch	10 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3901M-14921-SA	1.6 MP	Mono	Multi Torch	10 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3905C-00001-1V	5 MP	Color	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3905C-00001-SA	5 MP	Color	None	None	None	All Rule-Based & Edge AI Tools
IS3905C-14621-1V	5 MP	Color	Multi Torch	16 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3905C-14621-SA	5 MP	Color	Multi Torch	16 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3905C-14821-1V	5 MP	Color	Multi Torch	24 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3905C-14821-SA	5 MP	Color	Multi Torch	24 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3905M-00001-1V	5 MP	Mono	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3905M-00001-SA	5 MP	Mono	None	None	None	All Rule-Based & Edge AI Tools
IS3905M-14621-1V	5 MP	Mono	Multi Torch	16 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3905M-14621-SA	5 MP	Mono	Multi Torch	16 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3905M-14821-1V	5 MP	Mono	Multi Torch	24 mm HSSL	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3905M-14821-SA	5 MP	Mono	Multi Torch	24 mm HSSL	Diffused	All Rule-Based & Edge AI Tools
IS3916C-00001-1V	16 MP	Color	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3916C-00001-SA	16 MP	Color	None	None	None	All Rule-Based & Edge AI Tools
IS3916C-21021-1V	16 MP	Color	White Torch-HR	None	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3916C-21021-SA	16 MP	Color	White Torch-HR	None	Diffused	All Rule-Based & Edge AI Tools
IS3916M-00001-1V	16 MP	Mono	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3916M-00001-SA	16 MP	Mono	None	None	None	All Rule-Based & Edge AI Tools
IS3916M-22021-1V	16 MP	Mono	Red Torch-HR	None	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3916M-22021-SA	16 MP	Mono	Red Torch-HR	None	Diffused	All Rule-Based & Edge AI Tools
IS3925C-00001-1V	25 MP	Color	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3925C-00001-SA	25 MP	Color	None	None	None	All Rule-Based & Edge AI Tools
IS3925C-21021-1V	25 MP	Color	White Torch-HR	None	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3925C-21021-SA	25 MP	Color	White Torch-HR	None	Diffused	All Rule-Based & Edge AI Tools
IS3925M-00001-1V	25 MP	Mono	None	None	None	All Rule-Based, Edge & Advanced AI Tools
IS3925M-00001-SA	25 MP	Mono	None	None	None	All Rule-Based & Edge AI Tools
IS3925M-22021-1V	25 MP	Mono	Red Torch-HR	None	Diffused	All Rule-Based, Edge & Advanced AI Tools
IS3925M-22021-SA	25 MP	Mono	Red Torch-HR	None	Diffused	All Rule-Based & Edge AI Tools

*This table includes only the most common product models. To get information on other available models, please contact Cognex Sales at cognex.com/contact-sales.

Components and Accessories

Lights		
	Product ID	Description
	380-TORCH-MULTI-AF	Multi Torch Accessory Kit for autofocus lenses. Includes: Multi Torch illumination module, mount for illumination module (CLN-CXXFXX-HSLL High-Speed Liquid Lenses only), diffused cover, illumination PCB, 2 mm hex tool.
	380-TORCH-MULTI-MF	Multi Torch Accessory Kit for manual focus lenses. Includes: Multi Torch illumination module, mount for illumination module (CLN-CXXFXX manual lenses only), diffused cover, illumination PCB, 2 mm hex tool.
	380-TORCH-RED-HR	Red Torch-HR Accessory kit for high-resolution models. Includes Red Torch-HR illumination module, diffused cover, illumination cable, 2 mm hex tool.
	380-TORCH-WHITE-HR	White Torch-HR Accessory kit for high-resolution models. Includes White Torch-HR illumination module, diffused cover, illumination cable, 2 mm hex tool.
	CEL-BA	Bar Lights — Available lengths: 41-242 mm
	CEL-BL	Back Lights — Available lengths: 27-224 mm
	CEL-CX	Coaxial Lights — Available lengths: 20-50 mm
	CEL-DM3	Dome Lights — Available lengths: 80-285 mm
	CEL-DQH	Diffuse Square Lights — Available lengths: 48-120 mm
	CEL-DRW	Diffuse Ring Lights — Available length: 150 mm
	CEL-RH	Ring Lights — Available lengths: 42-210 mm
	CEL-RL	Low-Angle Ring Lights — Available lengths: 75-120 mm

Lenses			
	Product ID	Description	Compatible Lens Covers
	CLN-C08F8FS-HSLL ^{1,2}	8 mm HSLL	15 and 45 mm lens covers
	CLN-C10F5FS-HSLL ^{1,2,3}	10 mm HSLL	15 and 45 mm lens covers
	CLN-C16F8FS-HSLL ^{1,2,3}	16 mm HSLL	45 mm lens covers
	CLN-C24F6FS-HSLL ^{1,2,3}	24 mm HSLL	45 mm lens covers
	CLN-C35F8FS-HSLL ^{1,2,3}	35 mm HSLL	45 mm lens covers
	CLN-C16F8FS ^{1,2,3}	16 mm manual focus lens	45 mm lens covers
	CLN-C24F6FS ^{1,2,3}	24 mm manual focus lens	45 mm lens covers
	CLN-C16F65-HSLL-HR ^{4,5}	16 mm HSLL - high resolution	60 and 75 mm lens covers
	CLN-C25F65-HSLL-HR ^{4,5}	25 mm HSLL - high resolution	60 and 75 mm lens covers
	CLN-C35F06-HSLL-HR ^{4,5}	35 mm HSLL - high resolution	60 and 75 mm lens covers

Lenses			
	Product ID	Description	Compatible Lens Covers
	ML-M0818HR ¹	8 mm Moritex HR series lens	45 mm lens covers
	ML-M1218HR ¹	12 mm Moritex HR series lens	45, 60, and 75 mm lens covers
	ML-M1618HR ¹	16 mm Moritex HR series lens	45, 60, and 75 mm lens covers
	ML-M2518HR ¹	25 mm Moritex HR series lens	45, 60, and 75 mm lens covers
	ML-M3520HR ¹	35 mm Moritex HR series lens	45, 60, and 75 mm lens covers
	ML-M5025HR ¹	50 mm Moritex HR series lens	60 and 75 mm lens covers
	ML-M0420UR ^{1,2,3}	4 mm Moritex UR series lens	N/A
	ML-M0625UR ^{1,2,3}	6 mm Moritex UR series lens	N/A
	ML-M0822UR ^{1,2,3}	8 mm Moritex UR series lens	45 mm lens covers
	ML-M1218UR ^{1,2,3}	12 mm Moritex UR series lens	45, 60, and 75 mm lens covers
	ML-M1616UR ^{1,2,3}	16 mm Moritex UR series lens	45, 60, and 75 mm lens covers
	ML-M2516UR ^{1,2,3}	25 mm Moritex UR series lens	45, 60, and 75 mm lens covers
	ML-M3520UR ^{1,2,3}	35 mm Moritex UR series lens	45, 60, and 75 mm lens covers
	ML-M5025UR ^{1,2,3}	50 mm Moritex UR series lens	60 and 75 mm lens covers
	ML-M7528UR ^{1,2,3}	75 mm Moritex UR series lens	75 mm lens cover
	ML-U10028UR-18C ^{1,2,3}	100 mm Moritex UR series lens	75 mm lens cover
	ML-U0618SR ^{4,5,6}	6 mm Moritex SR series lens	N/A
	ML-U1217SR ^{4,5,6}	12 mm Moritex SR series lens	75 mm lens covers
	ML-U1615SR ^{4,5,6}	16 mm Moritex SR series lens	75 mm lens covers
	ML-U2515SR ^{4,5,6}	25 mm Moritex SR series lens	75 mm lens covers
	ML-U3518SR ^{4,5,6}	35 mm Moritex SR series lens	60 and 75 mm lens covers
	ML-U5022SR ^{4,5,6}	50 mm Moritex SR series lens	60 and 75 mm lens covers
	ML-U0828ZR-19C ⁷	8 mm Moritex ZR series lens	N/A
	ML-U1228ZR-19C ⁷	12 mm Moritex ZR series lens	75 mm lens covers
	ML-U1628ZR-19C ⁷	16 mm Moritex ZR series lens	75 mm lens covers
	ML-U2528ZR-19C ⁷	25 mm Moritex ZR series lens	75 mm lens covers
	ML-U3528ZR-19C ⁷	35 mm Moritex ZR series lens	75 mm lens covers
	ML-U5028ZR-19C ⁷	50 mm Moritex ZR series lens	75 mm lens covers

Compatible with:

- | | |
|----------------------------|-----------------------------|
| 1 IS3901 | 5 IS3916 (12 MP resolution) |
| 2 IS3905 (3 MP resolution) | 6 IS3916 |
| 3 IS3905 | 7 IS3925 |
| 4 IS3916 (8 MP resolution) | |

Telecentric Lens Options

Explore a full range of compatible telecentric lenses options designed to deliver superior imaging precision for advanced inspection applications. [Download the catalog.](#)

Bandpass Filters

	Product ID	Description
	380-TORCH-BP450 ^{1,2,3}	Blue bandpass filter for Multi Torch
	380-TORCH-BP635 ^{1,2,3}	Red bandpass filter for Multi Torch

Front Covers

	Product ID	Description
	380-TORCH-COVDF	Multi Torch diffused front cover
	380-TORCH-COVPOL	Multi Torch cross-polarized front cover
	380-TORCH-COVCLR	Multi Torch clear front cover
	380-TORCH-DOME	Multi Torch dome attachment
	380-TORCH-HR-COVDF	Torch-HR diffused front cover
	380-TORCH-HR-COVPL	Torch-HR cross-polarized front cover
	380-TORCH-HR-COVCL	Torch-HR clear front cover

Lens Covers

	Product ID	Description
	COV-380-CMNT-15	15 mm plastic lens cover
	COV-380-CMNT-45	45 mm plastic lens cover
	COV-380-CMNT-60	60 mm plastic lens cover
	COV-380-CMNT-75	75 mm plastic lens cover
	COV-7000-CMNT-LGX	30 mm lens cover extender

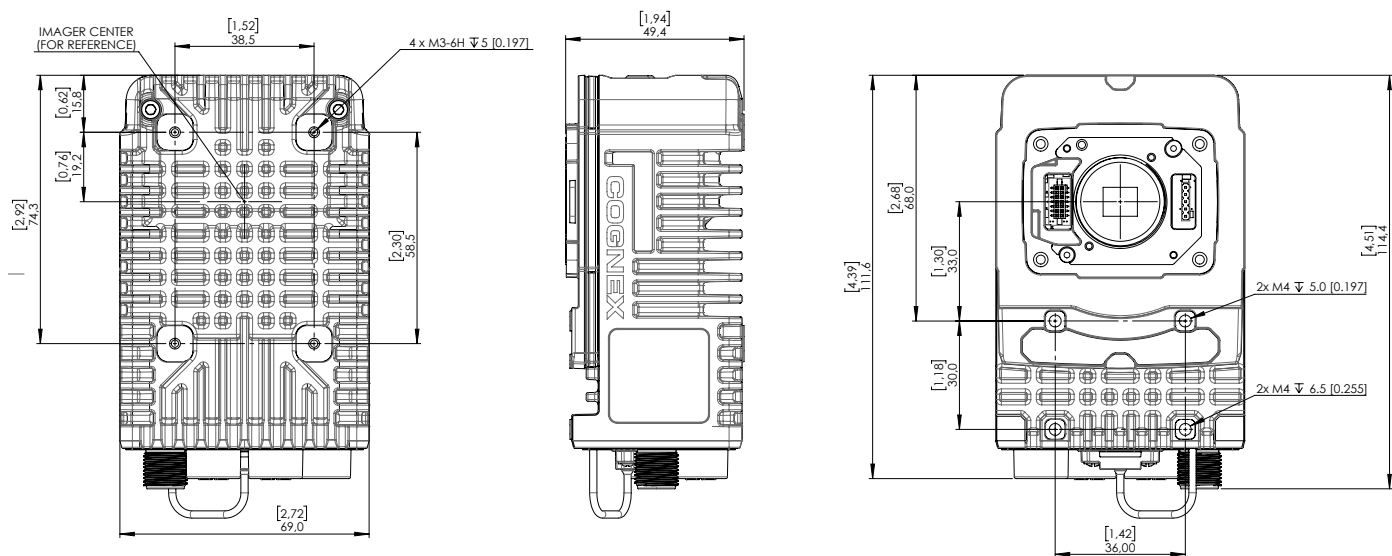
Mounting Brackets

	Product ID	Description
	BKT-INS-01	Mounting bracket with M3, M4 and 1/4 - 20 mounting holes
	ISB-7000-7K	Converter mounting bracket with M3 socket head screws/wrench
	ISB-7000-5K	Converter mounting bracket with Phillips flat head M3 screws and M4 screws
	DMBK-PVT-HPIT-380	U-shaped mounting bracket with M6 mounting holes for Torch-HR models

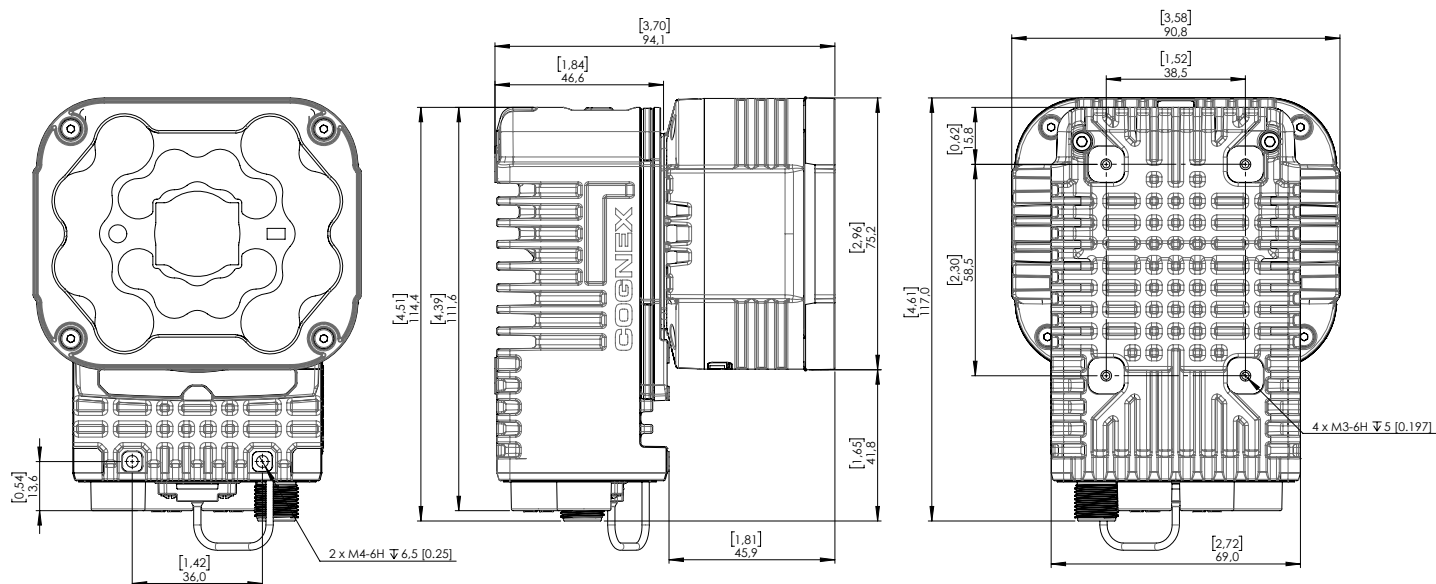
Dimensions

Get all In-Sight 3900 CAD files in one place at support.cognex.com.

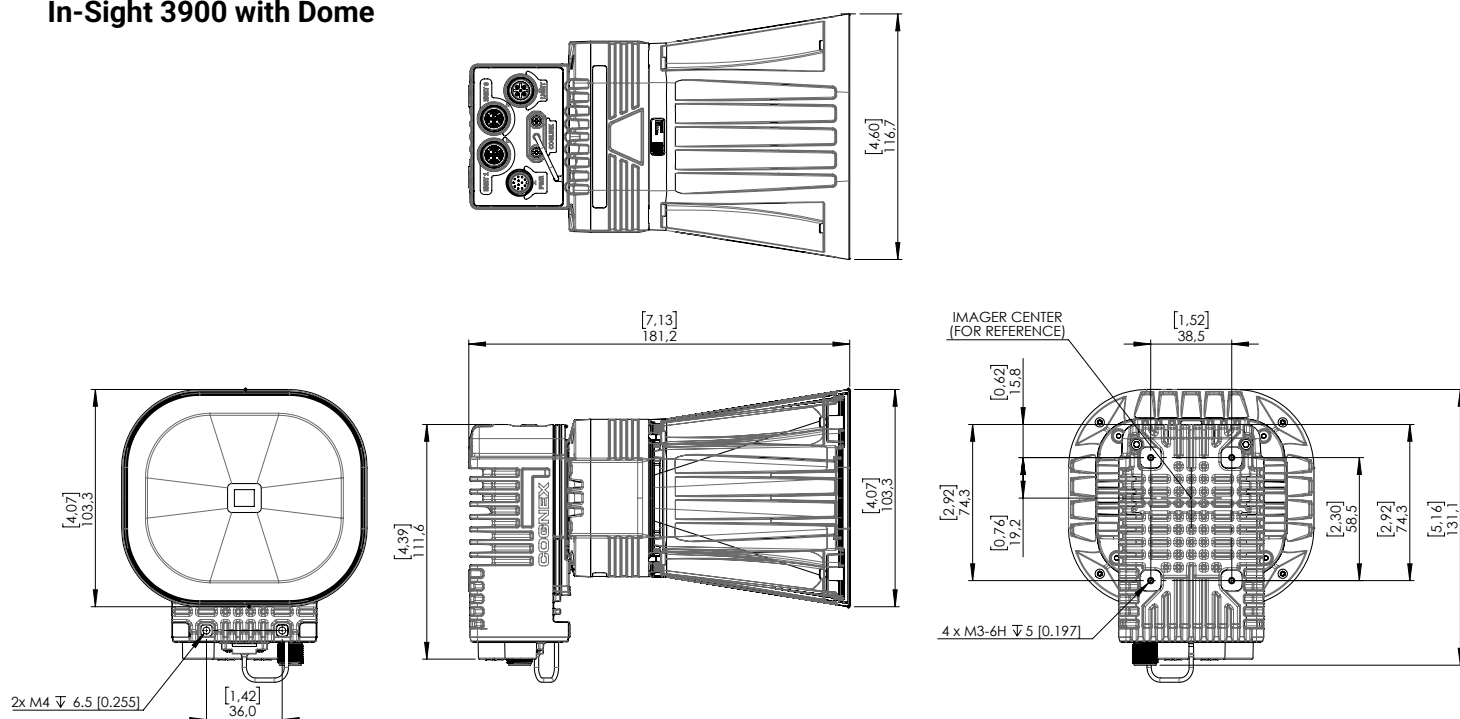
In-Sight 3900 base unit



In-Sight 3900 with Multi Torch

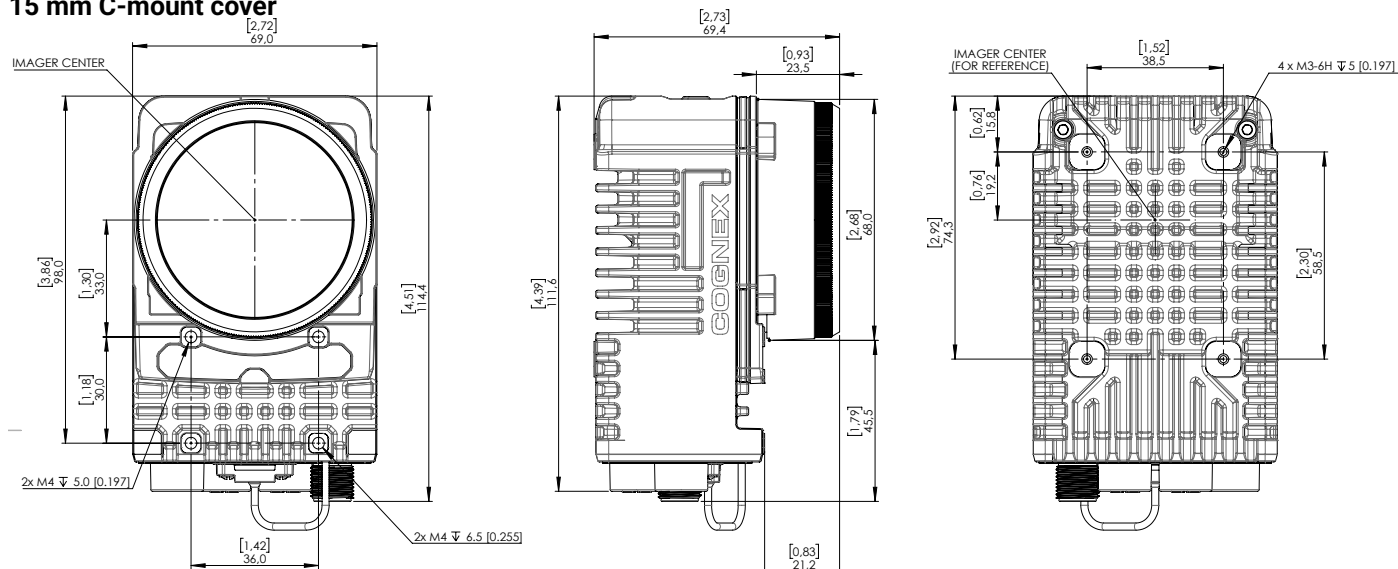


In-Sight 3900 with Dome

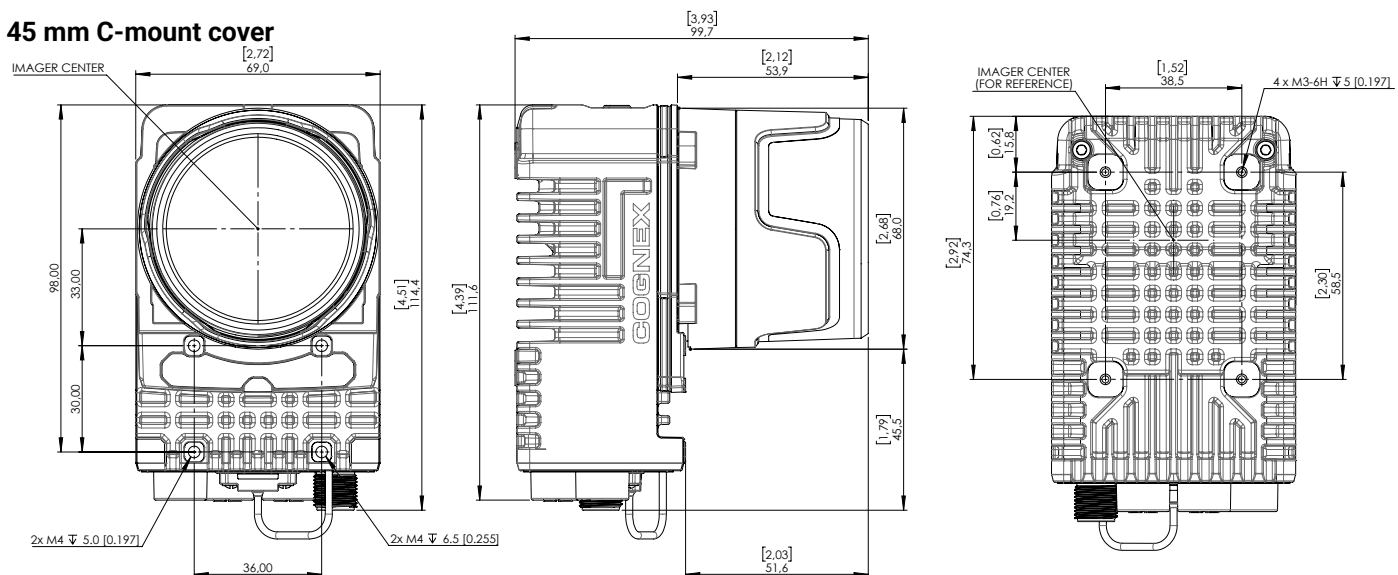


In-Sight 3900 with C-mount

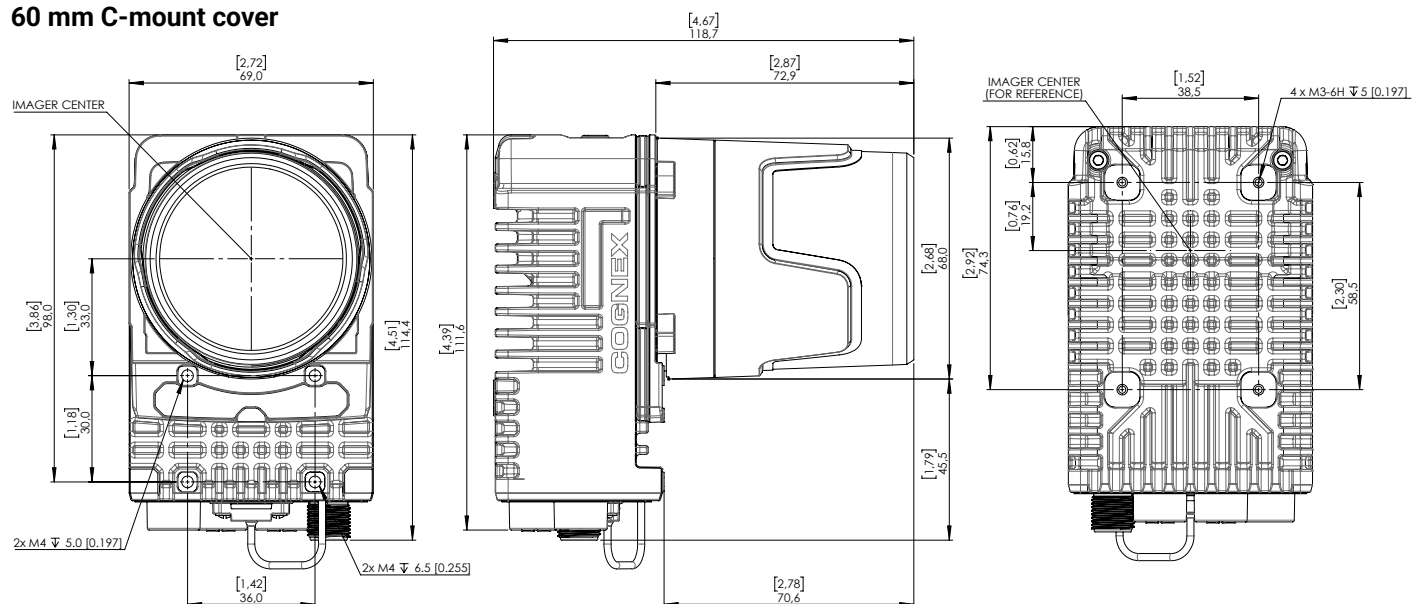
15 mm C-mount cover



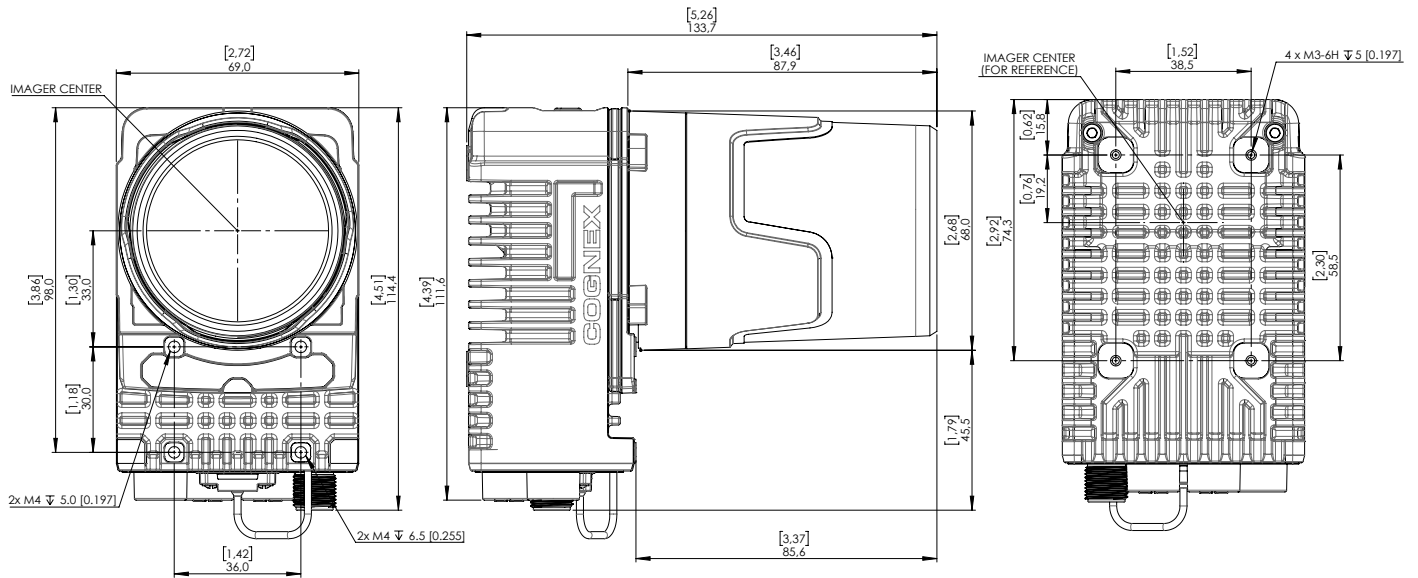
45 mm C-mount cover



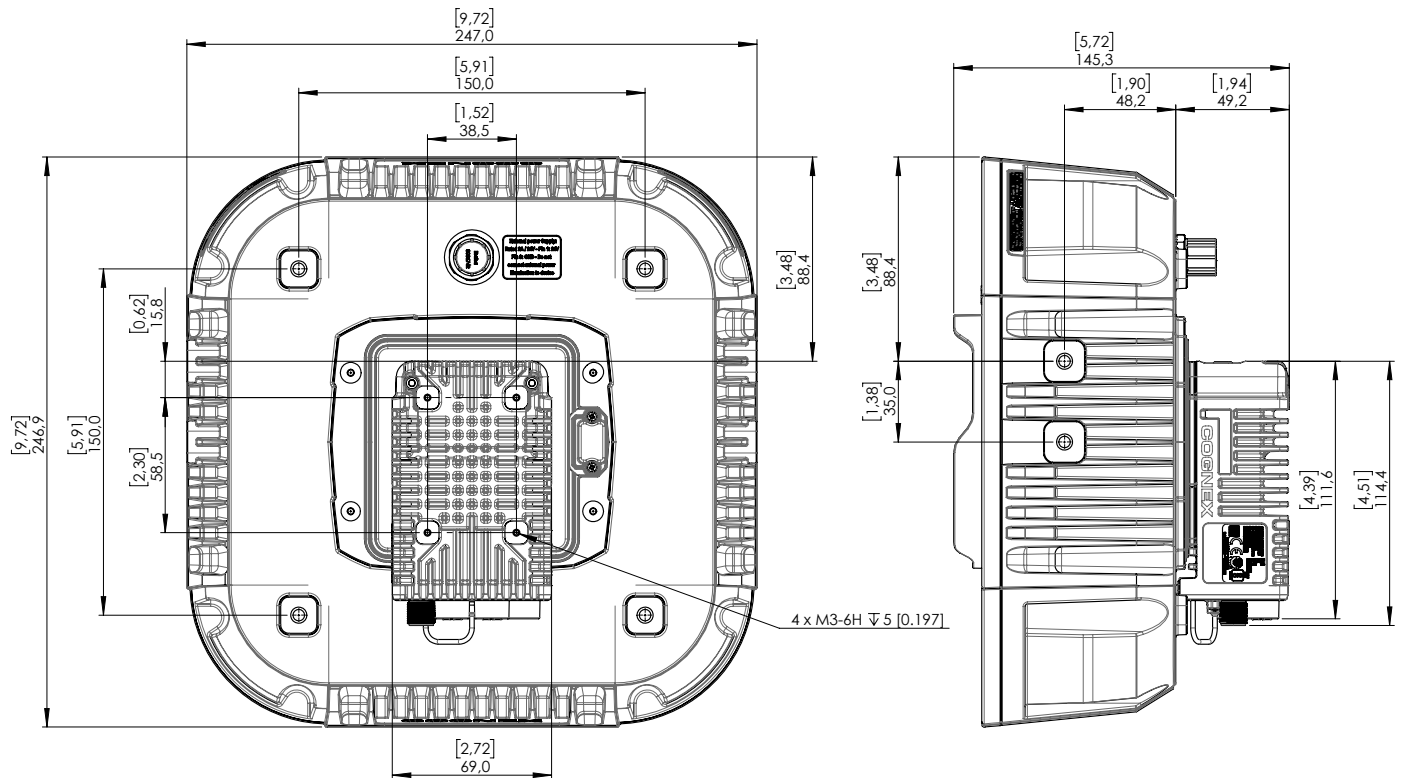
60 mm C-mount cover



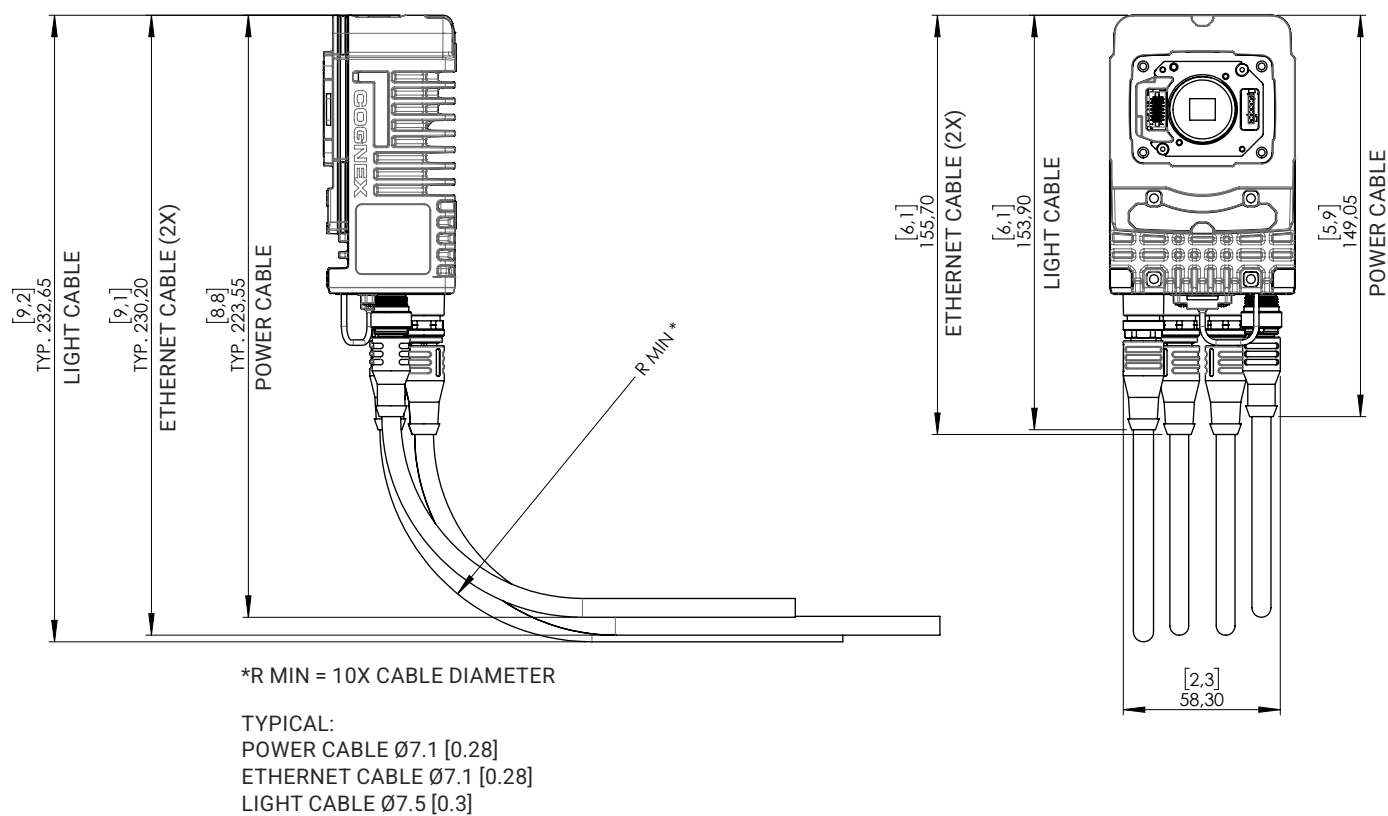
75 mm C-mount cover



In-Sight 3900 with Torch-HR



Cable bend radius



Technical Documentation

For full technical specifications, refer to the In-Sight 3900 Reference Manual available on support.cognex.com.

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Advanced machine vision made easy

Corporate Headquarters
One Vision Drive
Natick, MA 01760 USA

Contact us or find your regional sales office:
www.cognex.com/sales

Americas

North America +1 855 426 4639
Brazil +1 855 426 4639
Mexico +52 552 789 5444

Europe

Austria +49 721 958 8052
Belgium (FR) +33 176 549 318
France +33 176 549 318
Germany +49 721 958 8052
Ireland +353 21 601 9005
Italy +39 02 9475 4345
Spain +34 93 220 6237
Switzerland (DE) +49 721 958 8052
Switzerland (FR) +33 176 549 318
United Kingdom +353 21 601 9005
Other Europe +353 21 601 9005

Asia-Pacific

China +86 021 8036 5424
India +91 7305 040397
Japan +81 345 790 266
Korea +82 070 4784 4038
Malaysia +60 3 2774 6820
Singapore +65 3158 2511
Taiwan +886 801 492 017
Other Asia-Pacific +65 3158 2511

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