COGNEX

The power of one

Replace multiple conventional sensors with one vision sensor

IN-SIGHT SNAPP SERIES

In-Sight SnAPP Series

Stable detection for any application

The In-Sight® SnAPP vision sensor allows manufacturers to quickly automate processes and quality control tasks, with no experience needed. Using pre-trained AI, these easy-to-use sensors solve a range of error-proofing applications to ensure peak machine performance, support predictive maintenance, and enable continuous improvement.

Accurate detection optimizes application performance

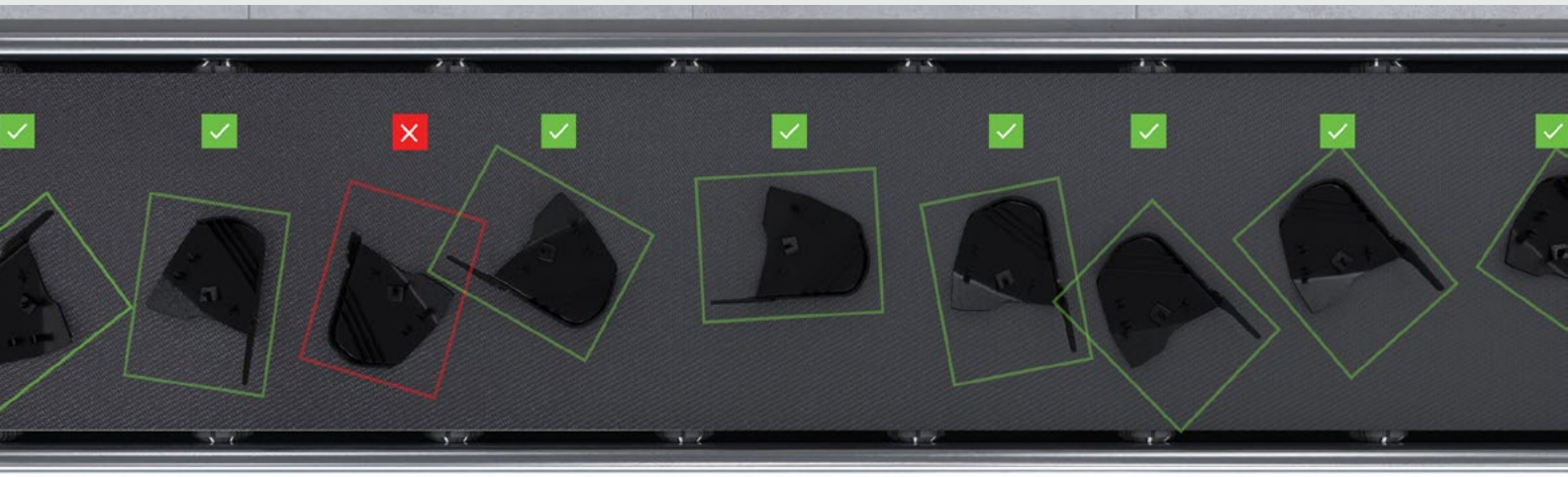
PAGE 5

High ease of use simplifies installation and offers fast deployment

PAGE 6

Flexible capability solves a range of inspection tasks

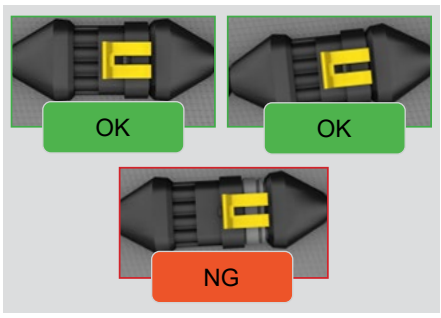
PAGE 7



Key features

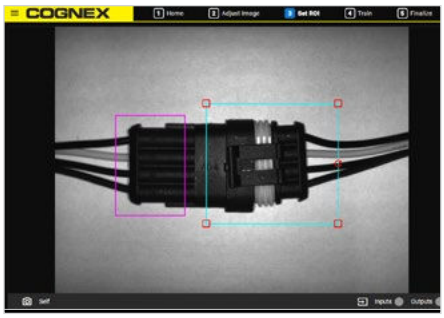
Embedded AI

Simplify setup and find subtle, variable anomalies.



Example-based training

Train jobs using just a few sample images.

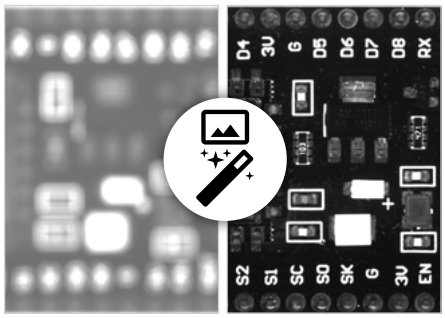


Web-based user interface

Plug in and run In-Sight SnAPP from anywhere, no software needed.

Real-time training feedback

View results in real-time to verify performance and identify potential issues early.



1-click image optimization

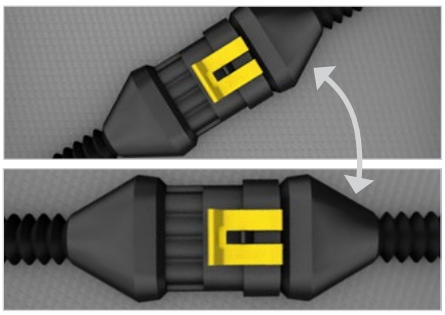
Capture high-resolution images, in a single click.

Web HMI compatibility

Train and monitor applications directly on the factory floor, without a PC.

Compact size

Easily add automation anywhere in your facility.



Fixturing capabilities

Fixture your region of interest to locate parts and features in any position.

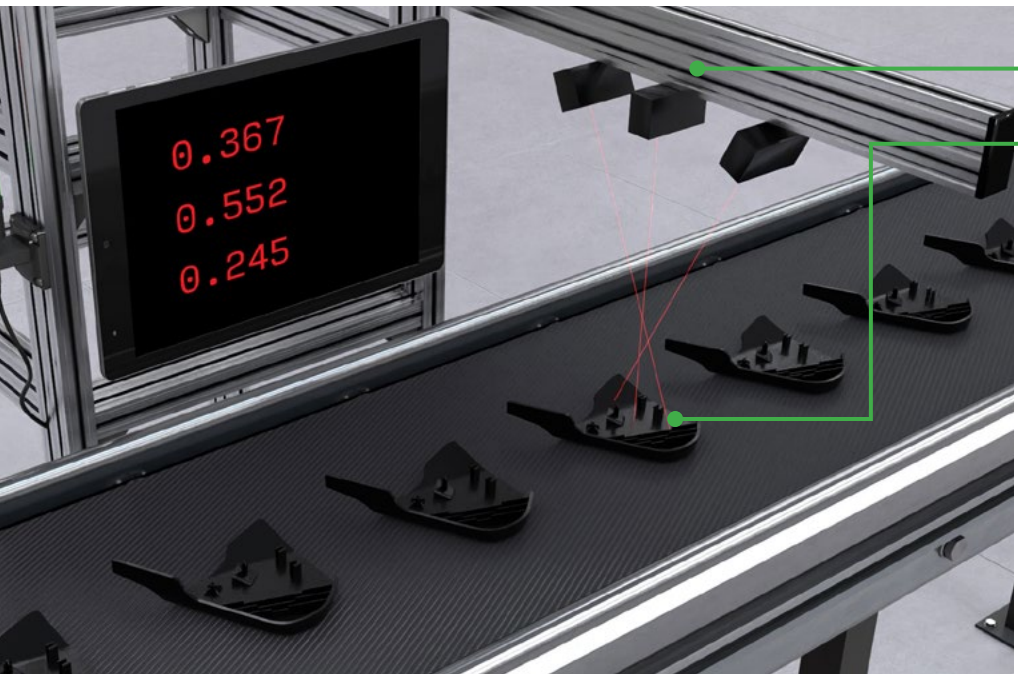
IP67 rated

Operate in challenging manufacturing environments.

Overcome the limitations of lasers with vision-based technology

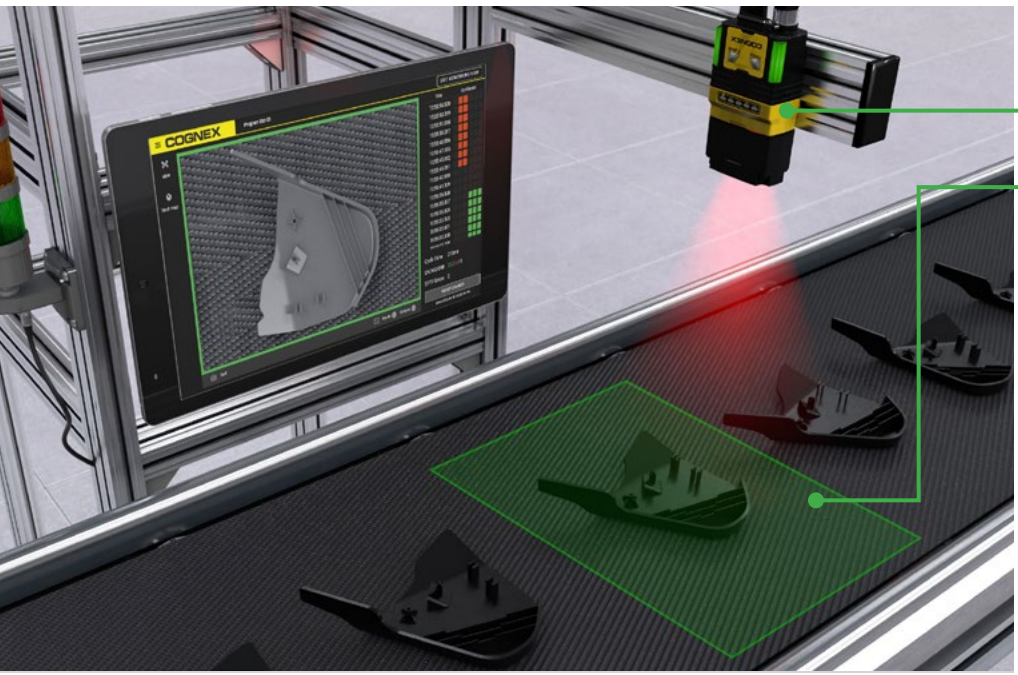
More performance in a single device

Replace multiple laser sensors or photo eyes with one In-Sight SnAPP sensor to simplify maintenance and future-proof your operations.



Limitations of laser sensors

- **Multi-device setup** increases maintenance time and costs
- **Narrow region of interest** means alignment must be on target
- Knowledge of **mechanical fixturing** required
- Use case is **presence/absence detection**, only



Benefits of SnAPP vision sensor

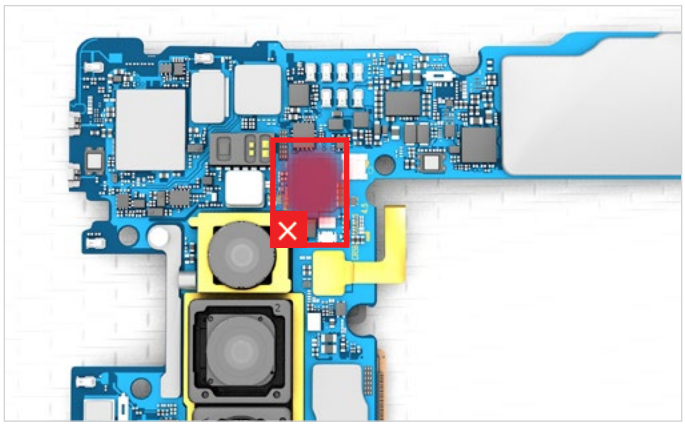
- **Single device setup** pinpoints source of errors for faster, easier maintenance
- **Wide region of interest** handles misalignment and positional changes
- **No technical expertise** required
- **Wide range** of use cases, including:
  - Presence/absence detection
  - Quality and process inspections
  - Sortation
  - Assembly verification
  - Optical character recognition
  - Counting

Accurate detection

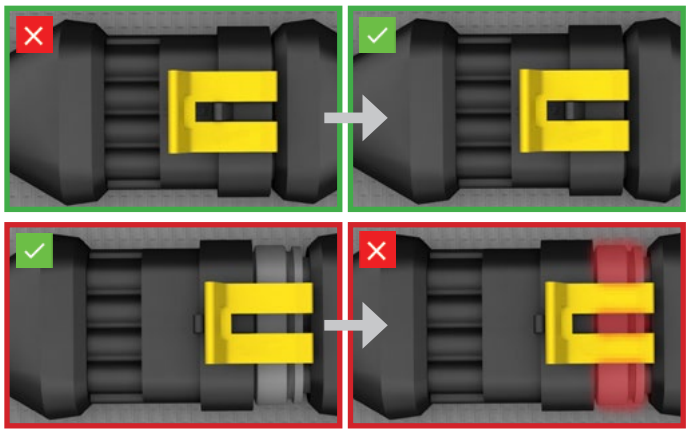
Optimize machine performance and ensure automated processes are working properly

Image-based detection and embedded AI exceed the capabilities of conventional sensors, like photoelectric, proximity, and optical sensors, and allow you to:

Find subtle anomalies

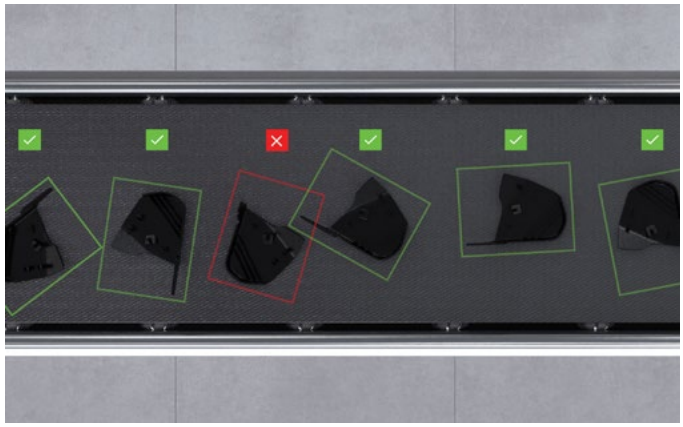


Eliminate false positives/negatives



Handle variation

Locate features and parts in any position



Higher detection rates

- More accurate inspections
- More consistent product quality
- More reliable machine performance

High ease of use

Go from unboxing to automating your line in minutes

Solve your application in 5 quick steps

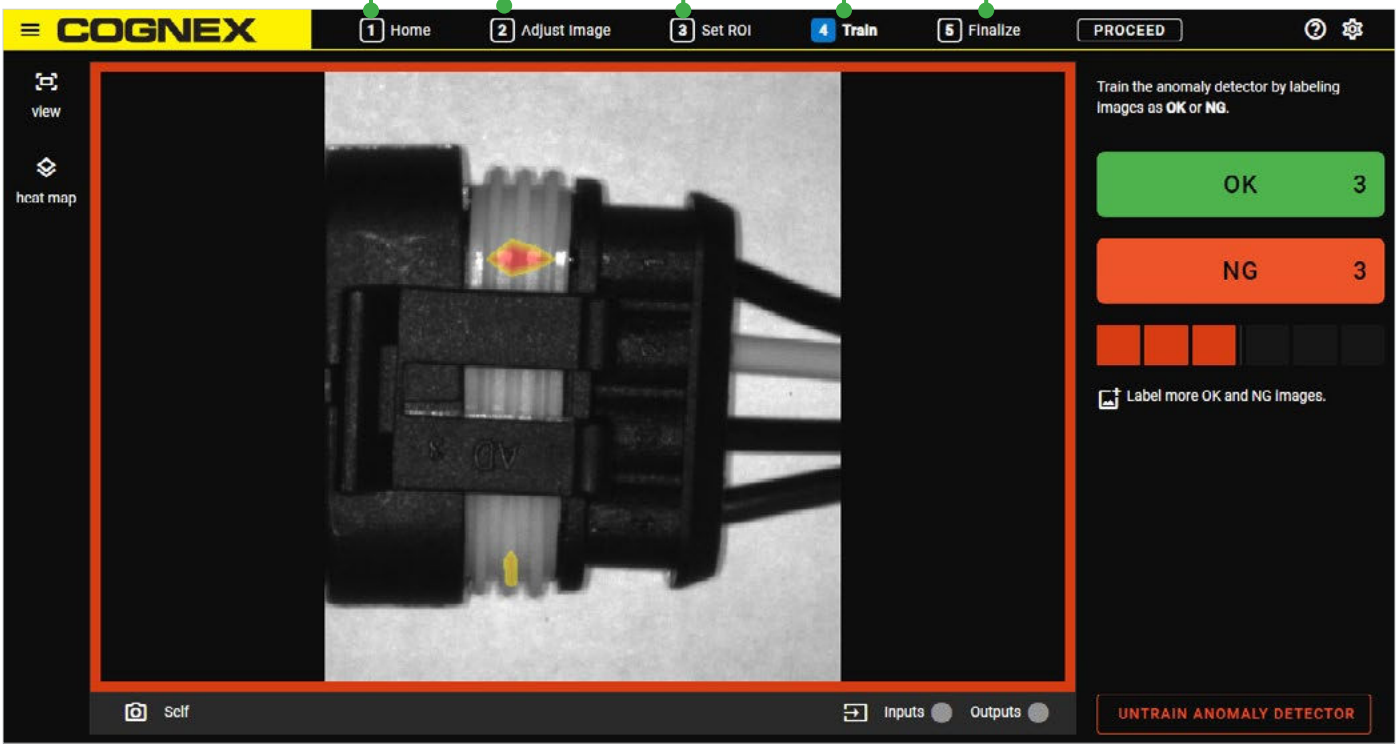
1 Find the device and open the home screen.

2 Adjust image and define acquisition area.

3 Set the region of interest.

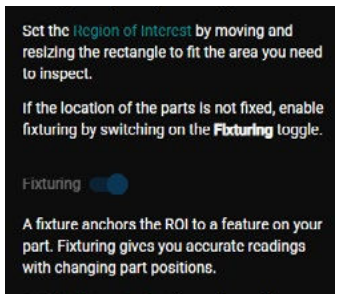
4 Label training images.

5 Select trigger mode settings and enter the monitoring view.



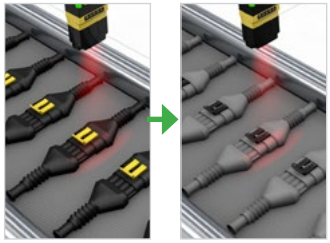
Fast, intuitive training

Guided setup walks you step-by-step through building your application.



Simplified installation and retrofits

Modify applications or build new ones within the UI, no hardware exchange needed.



Get started

Setting up your In-Sight SnAPP is easy with online, self-service support options. Choose from a variety of how-to videos and training materials to get up-and-running quickly.

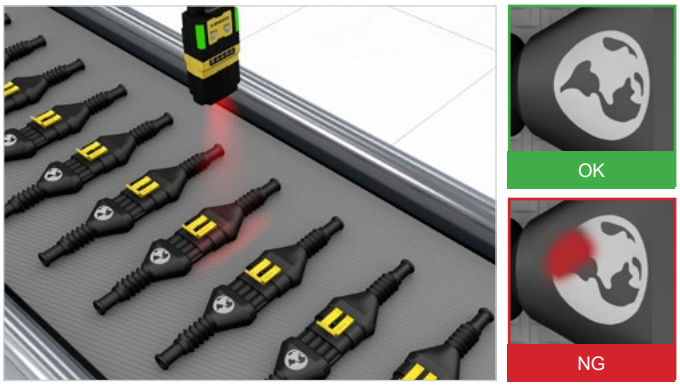
www.cognex.com/in-sight-snapp-support

Flexible functionality

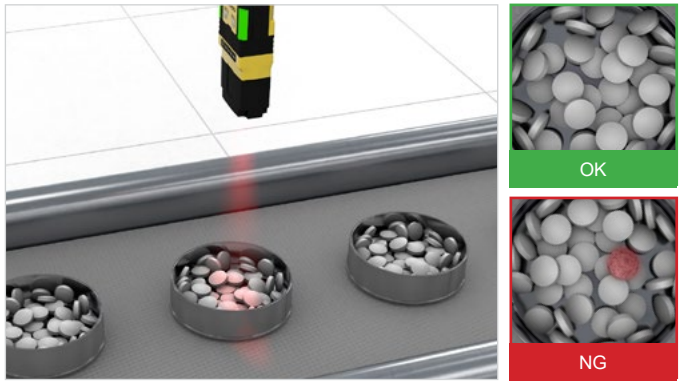
Do more than ever before with a sensor

Anomaly Detector

Verify marks and imprints on parts



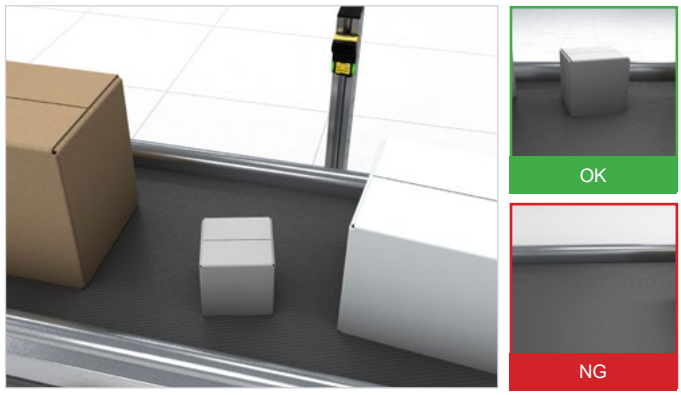
Inspect packaged items for debris



2-Class Classifier

Confirm presence/absence of parts

Automate process control



4-Class Classifier

Verify product completeness

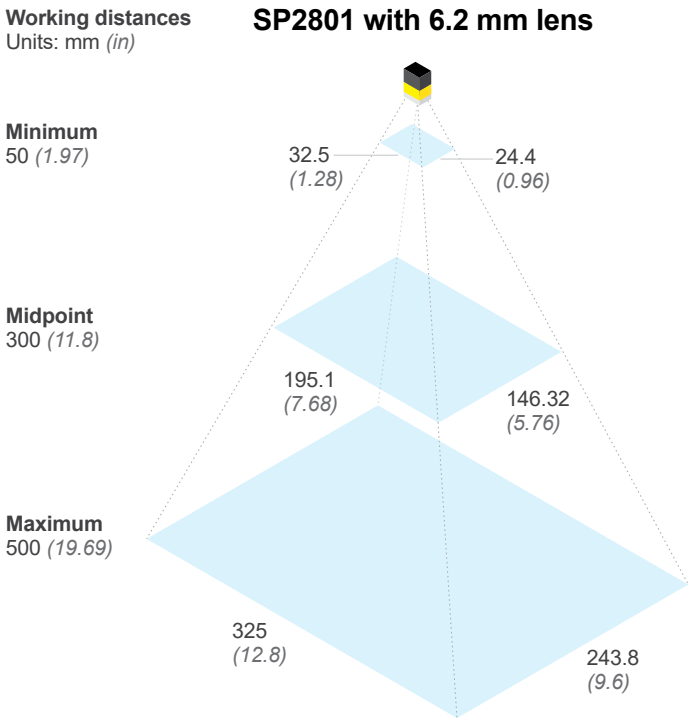
Inspect labels on final packaging

IN-SIGHT SNAPP SPECIFICATIONS

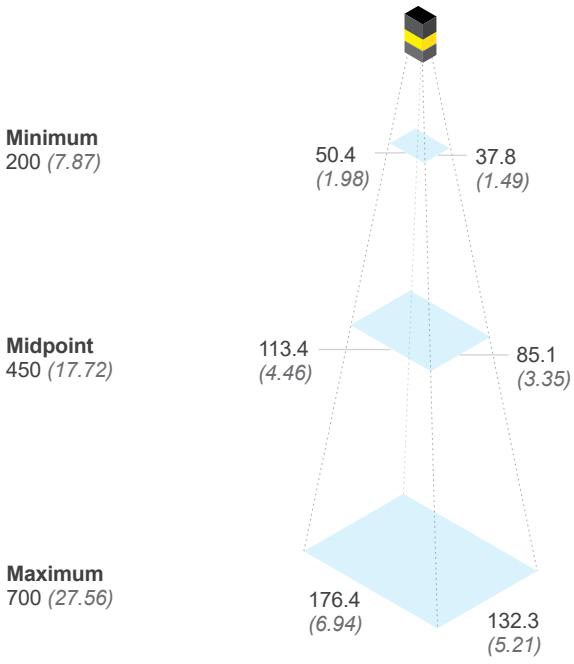
Weight	6.2 mm: 141 g 16 mm: 169 g Right angle configuration adds 50 g
Power	24 V DC +/- 10%, and Power over Ethernet (PoE)
Power Consumption	≤7.5W
Operating Temperature	0–40 °C (32–104 °F)
Storage Temperature	-10–60 °C (14–140 °F)
Humidity	<95% non-condensing
Environmental	IP67
Shock (Shipping and Storage)	IEC 60068-2-27: 1000 shocks, semi-sinusoidal, 11 g, 10 ms ISTA-1A Standardized Testing - Packaged Products 150 lb or less
Vibration (Shipping and Storage)	IEC 60068-2-6: vibration test in each of the three main axis for 2 hours @ 10 Gs (10 to 500 Hz at 100m/s^2 / 15 mm) FedEx Vibration Testing for packaged products 150 lbs or less
High-Speed Outputs 0, 1, 2, 3	I_{MAX}: 50 mA V_{OL}: ≤ ± 3 V @ 50 mA
Inputs 0 (Trigger), 1, 2, 3	V_{IL}: ≤ ± 6 V V_{IH}: ≥ ± 12 V I_{TYP}: 4.2 mA @ 24 V
Ethernet	10/100/1000. Full duplex or half duplex.
Program Storage	20 for each Application
Image Sensor	1/2.8-inch CMOS monochrome and color
Image Sensor Properties	Pixel size: 2.8 µm (H) x 2.8 µm (V)
Image Resolution (pixels)	1440 x 1080 (1.6 MP)
Lens Type	Autofocus: 6.2 mm, 16 mm (High Speed Liquid Lens)

Field of view diagrams

SP2801 with 6.2 mm lens



SP2801 with 16 mm lens



Product IDs and descriptions

IN-SIGHT SNAPP

	Product ID	Resolution	Mono/Color	Configuration	Lens	Light	Toolset
	SP2801MR-WR-AD	1.6 MP	Mono	Angled	6.2 mm HSLL	Red	Anomaly Detector
	SP2801CW-WR-AD	1.6 MP	Color	Angled	6.2 mm HSLL	White	Anomaly Detector
	SP2801MR-WR-2C	1.6 MP	Mono	Angled	6.2 mm HSLL	Red	2-Class Classifier
	SP2801CW-WR-2C	1.6 MP	Color	Angled	6.2 mm HSLL	White	2-Class Classifier
	SP2801MR-WR-4C	1.6 MP	Mono	Angled	6.2 mm HSLL	Red	4-Class Classifier
	SP2801CW-WR-4C	1.6 MP	Color	Angled	6.2 mm HSLL	White	4-Class Classifier
	SP2801MR-WR-AL	1.6 MP	Mono	Angled	6.2 mm HSLL	Red	All applications
	SP2801CW-WR-AL	1.6 MP	Color	Angled	6.2 mm HSLL	White	All applications
	SP2801MR-NS-AD	1.6 MP	Mono	Straight	16 mm HSLL	Red	Anomaly Detector
	SP2801CW-NS-AD	1.6 MP	Color	Straight	16 mm HSLL	White	Anomaly Detector
	SP2801MR-NS-2C	1.6 MP	Mono	Straight	16 mm HSLL	Red	2-Class Classifier
	SP2801CW-NS-2C	1.6 MP	Color	Straight	16 mm HSLL	White	2-Class Classifier
	SP2801MR-NS-4C	1.6 MP	Mono	Straight	16 mm HSLL	Red	4-Class Classifier
	SP2801CW-NS-4C	1.6 MP	Color	Straight	16 mm HSLL	White	4-Class Classifier
	SP2801MR-NS-AL	1.6 MP	Mono	Straight	16 mm HSLL	Red	All applications
	SP2801CW-NS-AL	1.6 MP	Color	Straight	16 mm HSLL	White	All applications

Components and accessories

MOUNTING BRACKETS

	Product ID	Description
	DM100-UBRK-000	Universal mounting bracket
	DM100-PIVOTM-01	Pivot mounting bracket
	DMBK-DMPIVOT-00	Tilted angle pivot bracket

CABLES

	Product ID	Description
	CCB-84901-2001-XX	Ethernet cable, X-coded M12-8 to RJ-45, straight (2m, 5m, 10m, 15m, 30m)
	CCB-84901-2002-XX	Ethernet cable, X-coded M12-8 to RJ-45, right-angled (2m, 5m, 10m)
	CCB-84901-2RBT-XX	Ethernet cable, robotic X-coded M12-8 to RJ-45, straight (2m, 5m, 10m)
	CCB-M12X8MS-XCAC	X-coded to A-coded Ethernet cable adapter (5m, 10m, 15m)
	CCB-PWRIO-XX	Power and I/O breakout cable, M12-12 to flying lead
	CCB-PWRIO-XXR	Power and I/O breakout cable, M12-12 to flying lead, right-angled (5m, 10m, 15m)
	CCB-PWRIO-MOD-XX	I/O Module Cable M12-12 to DB15 (2m, 5m)
	CCB-M12xDB9Y-05	RS-232 connection cable
	CKR-200-CBL-EXT	I/O extension cable

Set up applications, directly on the factory floor, with VisionView

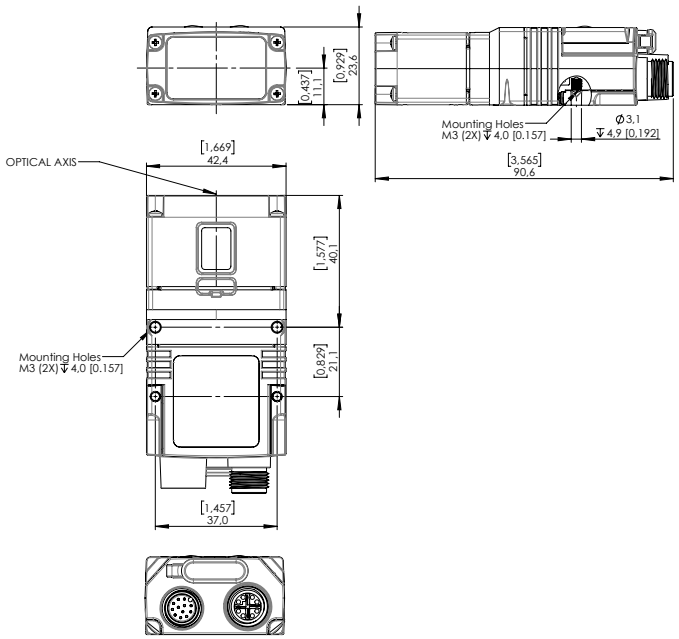
VisionView is a display panel that allows you to quickly train, update, and monitor jobs on the production line, without the need for a PC. Having this technology on the factory floor improves efficiency, facilitates easy device management, and provides real-time feedback for immediate process improvements.

www.cognex.com/VisionView

Dimensions Units: mm, [in]

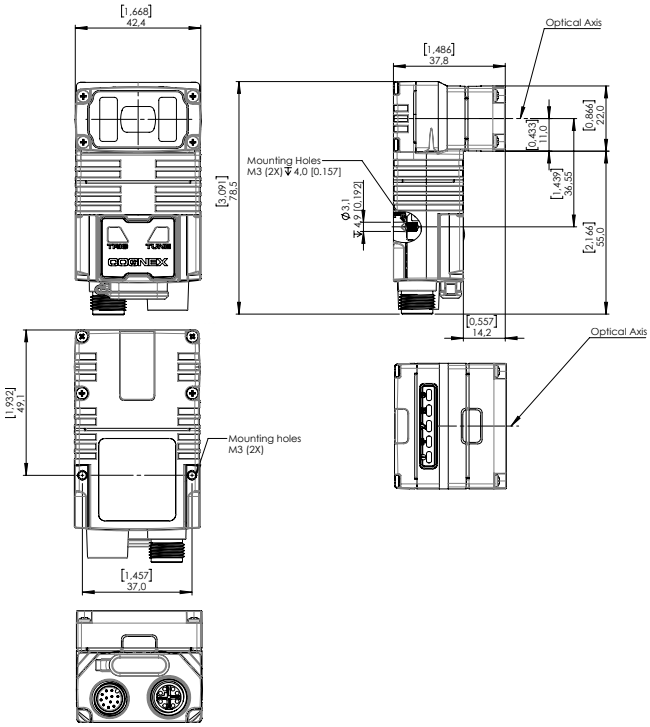
With 16 mm lens

Download CAD files



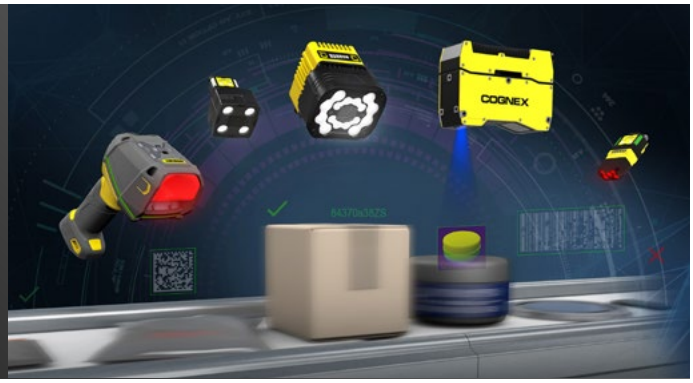
With 6.2 mm lens

Download CAD files



A solution for every need

With a familiar user experience, easily transition to another product within the Cognex portfolio as your needs change. We have a wide range of solutions to support you as your business grows and your application requirements evolve.



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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