

3D VISION SYSTEMS

Whether performing a single profile measurement or scanning an entire surface in 3D, Cognex has the most powerful and robust 3D vision tools. Manufacturers in all industries trust Cognex technology to deliver high accuracy surface feature measurements that go beyond the capabilities of 2D vision technology.

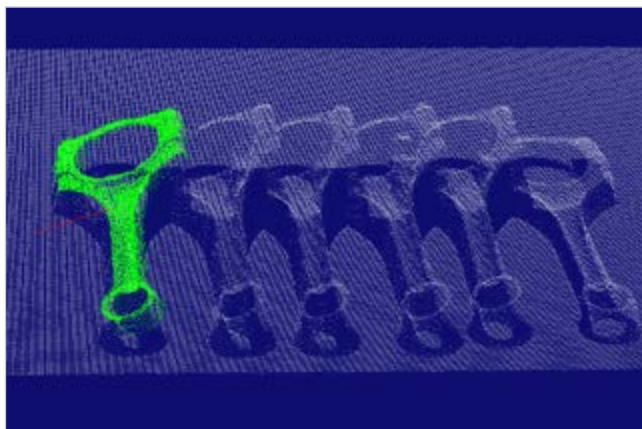
3D-A5000 Series

State-of-the-art area scan 3D camera captures high-resolution 3D point cloud images in a fraction of the time of current methods. Using unique 3D imaging technology, it solves challenging assembly verification, in-line metrology, and robotic guidance applications.

3D RESOLUTION

 **1.5 million points**

FEATURES



DSMax

Fast, high-definition laser displacement sensor for accurate 3D inspections of small, detailed parts. Ideal solution for electronic components which can contain highly reflective or dark features.

3D RESOLUTION



2000 points

FEATURES



ESD-Safe



IP65



DS1000/925B Series

Factory-calibrated displacement sensors perform fast, accurate, high-resolution 3D inspections, measurements, and OCR character reading. Equipped with industry-leading 3D vision tool and delivers results in real-world units.

3D RESOLUTION



1280 points



Factory Calibrated



ESD-Safe



IP65



In-Sight Laser Profiler

A 3D projection-based measurement sensor used to verify dimensionality for gauging and measurement applications. Set up and deployed in 4 simple steps, it provides accurate and reliable measurements directly on the factory floor.

3D RESOLUTION



1280 points

FEATURES



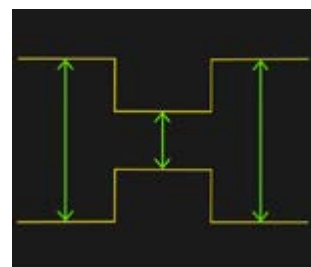
Factory Calibrated



ESD-Safe

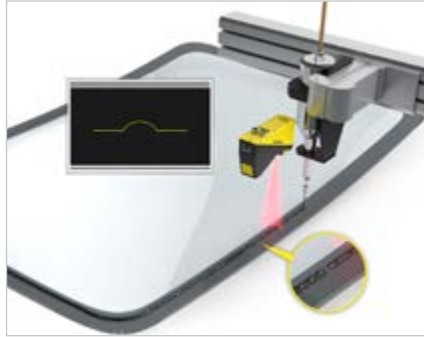


IP65

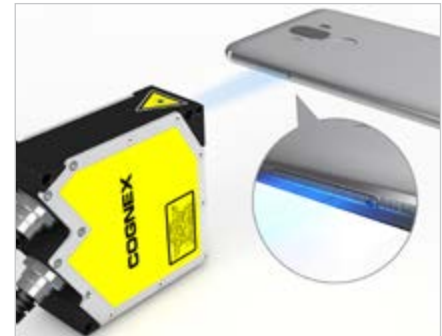


3D VISION APPLICATIONS

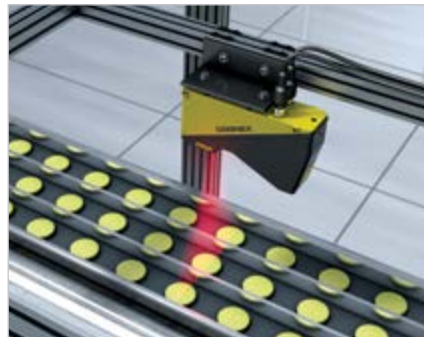
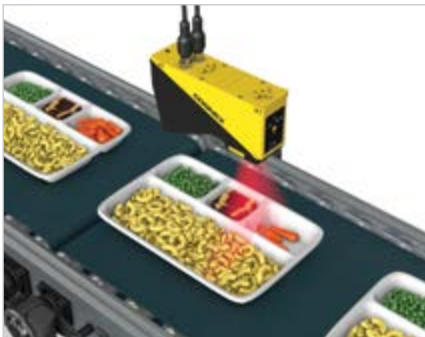
Automotive



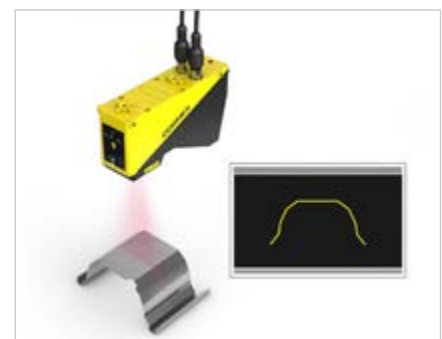
Electronics



Food & Beverage



Consumer Products



3D VISION SYSTEMS SPECIFICATIONS

3D-A5000 Series

	3D-A5060	3D-A5030	3D-A5005
3D Technology	3D LightBurst Area Scan		
Clearance Distance (CD)	1400.0 mm (55.1 in)	1465.0 mm (57.7 in)	299.3 mm (11.8 in)
Measurement Range (MR)	400.0 mm (15.7 in)	80.0 mm (3.1 in)	12.0 mm (0.5 in)
Near FOV	520 x 390 mm (20.1 x 15.4 in)	280 x 210 mm (11.0 x 8.3 in)	60 x 44 mm (2.4 x 1.7 in)
Far FOV	645 x 490 mm (25.4 x 19.3 in)	285 x 216 mm (11.2 x 8.5 in)	65 x 46 mm (2.6 x 1.8 in)
Resolution XY	361–454 µm	195–200 µm	42–44 µm
Resolution Z	338–690 µm	178–213 µm	7–8 µm
Acquisition Time	200 msec		
Protection	IP65		
Software	VisionPro & Cognex Designer		

DSMax

	DSMax32T
3D Technology	Laser Displacement Sensor
Clearance Distance (CD)	51.4–62.3 mm (2.0–2.5 in)
Measurement Range (MR)	10.9 mm (0.4 in)
Near FOV	30 mm (1.2 in)
Far FOV	31.5 mm (1.2 in)
Resolution XY	14.6–15.4 µm
Resolution Z	2.5–2.8 µm
Acquisition Rate	Up to 18 KHz
Protection	IP67
Software	VisionPro & Cognex Designer

DS1000/900 Series 3D and In-Sight Laser Profiler

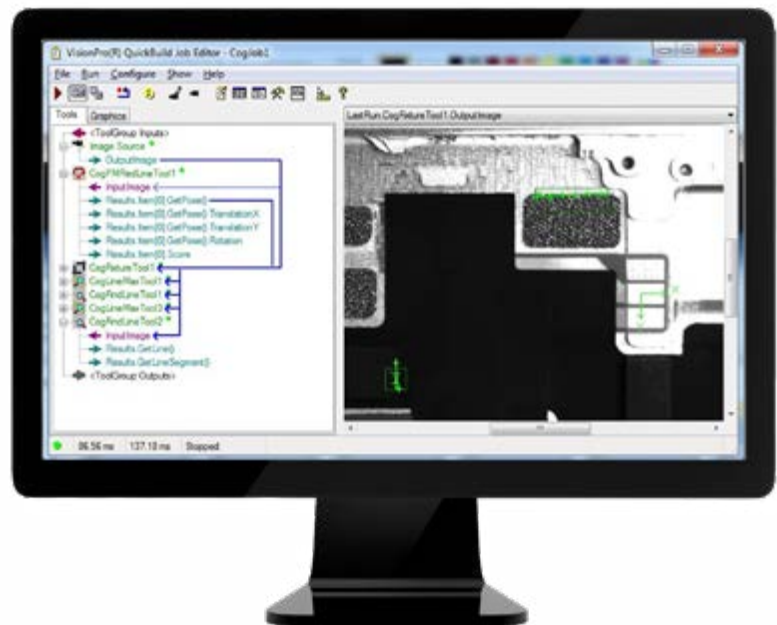
	DS1300	DS1101	DS1050	DS925B	DS910B
3D Technology	Laser Displacement Sensor				
Clearance Distance (CD)	180 mm (7.1 in)	135 mm (5.3 in)	87 mm (3.4 in)	53.5 mm (2.1 in)	52.5 mm (2.1 in)
Measurement Range (MR)	725 mm (28.5 in)	220 mm (8.7 in)	76 mm (3.0 in)	25 mm (1.0 in)	8 mm (0.3 in)
Near FOV	90 mm (3.5 in)	64 mm (2.5 in)	43 mm (1.7 in)	23.4 mm (1.0 in)	9.4 mm (0.4 in)
Far FOV	410 mm (16.1 in)	162 mm (6.4 in)	79 mm (3.1 in)	29.1 mm (1.1 in)	10.7 mm (0.4 in)
Resolution XY	101–457 μm	79–181 μm	59–90 μm	18.3–22.7 μm	7.3–8.4 μm
Resolution Z	16–265 μm	10–52 μm	4–14 μm	2 μm	1 μm
Acquisition Rate	Up to 10 Hz			Up to 1.2 KHz	
Protection	IP65				
Software	In-Sight VC Explorer with EasyBuilder, VisionPro & Cognex Designer				

VISION SOFTWARE

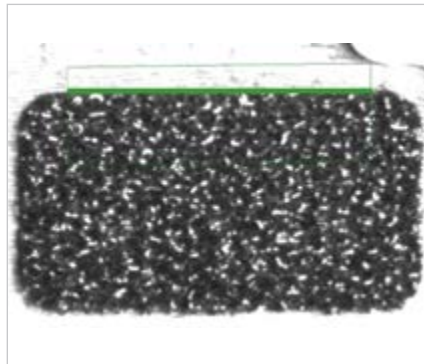
Cognex vision software provides the power and flexibility to solve your most challenging machine vision applications in a PC environment. It enables the highest speed applications with the flexibility to choose the camera needed for your vision application. In addition to the programmatic interfaces provided across the vision software products, VisionPro and Cognex Designer make application development easier than ever through their graphical development environments.

VisionPro

A powerful development environment to tackle any vision challenge. VisionPro enables the rapid development of sophisticated vision software through its extensive tool prototyping that allows you to visually define and tune your application. VisionPro's seamlessly integrated programming interface enables the deployment of highly-customizable applications on your PC platform.



PatMax
Object location



LineMax
Line finding



Blob Analysis
Geometric analysis

VisionPro ViDi

A best-in-class, deep learning-based image analysis software library for complex and human-like inspection applications in the same environment as machine vision tools.

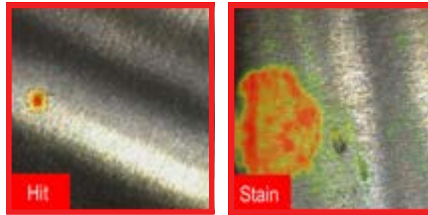
This novel approach solves complex applications that are too difficult or time-consuming for traditional machine vision systems. It finds unpredictable defects while tolerating normal part and lighting variations.



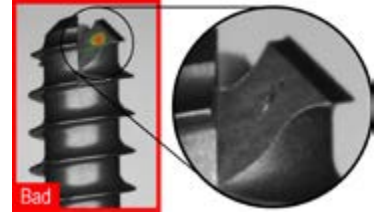
Finds and counts complex features and objects



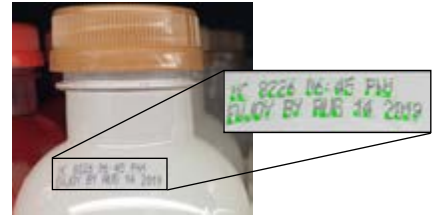
Classifies and sorts objects and complete scenes



Detects anomalies and cosmetic defects



Reads challenging, deformed characters



Cognex Designer

Cognex Designer combines the power and flexibility of VisionPro with an intuitive graphical interface. Cognex Designer enables developer efficiency by simplifying HMI creation and application integration.



Cognex Vision Library (CVL)

Comprehensive C++ software vision library to provide the ultimate application development flexibility.

Vision Accessories

A wide variety of industrial cameras, frame grabbers, and I/O factory communication cards for system flexibility.



BUILD YOUR VISION

2D VISION

Cognex machine vision systems are unmatched in their ability to inspect, identify and guide parts. They are easy to deploy and provide reliable, repeatable performance for the most challenging applications.

www.cognex.com/machine-vision



3D VISION

Cognex In-Sight laser profilers and 3D vision systems provide ultimate ease of use, power and flexibility to achieve reliable and accurate measurement results for the most challenging 3D applications.

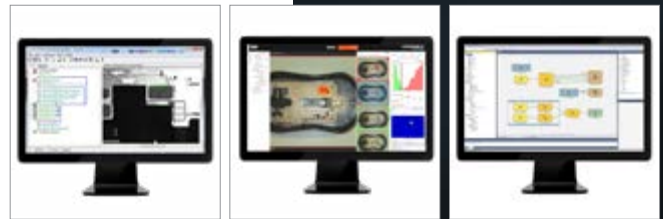
www.cognex.com/3D-vision-systems



VISION SOFTWARE

Cognex vision software provides industry leading vision technologies, from traditional machine vision to deep learning-based image analysis, to meet any development needs.

www.cognex.com/vision-software



BARCODE READERS

Cognex industrial barcode readers and mobile terminals with patented algorithms provide the highest read rates for 1D, 2D and DPM codes regardless of the barcode symbology, size, quality, printing method or surface.

www.cognex.com/BarcodeReaders



COGNEX

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

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