

DS925B 3D DISPLACEMENT SENSOR

Take inspection of your products to the next level by incorporating 3D inspection using the Cognex DS925B sensor. It combines a compact and rugged optical design with industry-leading Cognex vision software that includes a powerful 3D toolset.

Unlike traditional 2D machine vision, the DS925B 3D Displacement Sensor provides a topological representation of your part with 3D features that can be used to supplement 2D inspection data with measurements such as height, tilt and volume. The extra dimensional information can also be used to solve applications that may be challenging due to the part's color.

- Complete 2D and 3D machine vision solution
- Factory-calibrated with results in real world units, micron-level accuracy
- Field calibration for removal of mounting and motion inaccuracies
- Tools for inspection include height, tilt, plane-fitting, volume and cross-section
- Industrial IP65 laser and camera

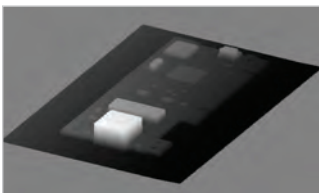
Calibrated 3D Vision from Cognex

The factory-calibrated DS925B provides results in real units of measurement with micron-level accuracy, making 3D applications easier to use and quicker to deploy.

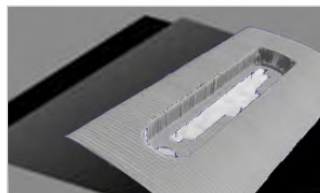
Correction of mounting and motion errors is simple using Cognex field calibration techniques, allowing preservation of accuracy even with relaxed mechanical configurations. Field calibration also enables multiple DS925B sensors to be used in combination across wide production lines to generate single high resolution 3D images.

Examples of applications solved using the DS925B sensor include:

- Measuring component height, tilt and spacing to ensure correct assembly
- Verifying depth of screw holes and machined slots in housings
- Identifying surface defects and foreign debris introduced prior to assembly
- Inspecting quality and quantity of glue and sealant dispense



Measure component heights



Verify housing slot depth




PCB Inspection



Cognex Designer makes it easy to set up a professional looking graphical user interface such as the PCB inspection application interface above.

Specifications

Dimensions	96 mm (H) x 33 mm (W) x 85 mm (L)
Weight	380 g
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Maximum Humidity	5-95% (non-condensing)
Housing	IP65 (with Cognex recommended IP65 Ethernet and power I/O cables)
Laser Power	8mW (class 2M) 405nm wavelength
Encoder Input Specifications	Single-ended quadrature encoder. A+/B+ voltage limits: +5 VDC (TTL); +30 VDC (HTL) Input ON: > 2.4 VDC (TTL); > 11 VDC (HTL) Input OFF: < 0.8 VDC (TTL); < 3 VDC (HTL) A-/B-: +0VDC
Power Supply	Voltage: +24 VDC (11-30 VDC) Current: 500 mA max IEEE 802.3af Power over Ethernet
Scan Rate	Up to 1.2 kHz
Software	Cognex Designer software
Ethernet	Gigabit Ethernet interface Standard M12-8 female connector
Certifications	
Accessories	Ethernet cable: 5m, IP65-rated Power: + I/O + Encoder cable, IP65-rated
VC5 Controller	Intel i5 processor Precision I/O Real Time Communication 207 mm (H) 132.6 mm (W) x 229.5 (L)



Benefits

Complete 2D and 3D machine vision solution

- Expanded range of sensor options
- Bundled with VC5 Controller
- Easy deployment with Cognex Designer™ software

Measurements provided in real-world units

- Calibrated 3D system
- Micron-level accuracy

Easy-to-use field calibration

- Protection against misalignment and motion errors
- Consistent results across production lines

3D image stitching

- Higher resolution and wider fields of view
- Simplifies multi-head analysis

Contrast independent inspection

- Dark object on dark background
- Independent of color

Concurrent intensity data

- Spatially-aligned 3D and 2D vision
- Enhanced textured 3D visualization

Ability to combine 3D and 2D cameras

- Many applications require both

World-class 3D and 2D vision tools

- Height, volume, plane-fitting, and tilt tools
- PatMax®, IDMax® and OCRMax™ algorithms

Industrial IP65 Housing

DS925B Specifications

Near Field of View (mm)	23.4
Far Field of View (mm)	29.1
Clearance Distance (mm)	53.5
Measurement Range (mm)	25
Laser Class	2M
Resolution X (mm)	0.0183-0.0227
Resolution Z (mm)	0.002

COGNEX

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

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