

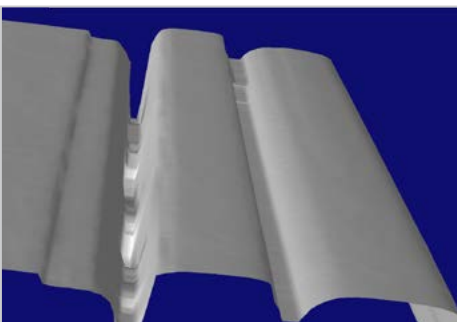
## DS910B 3D DISPLACEMENT SENSOR

Take manufacturing of your products to the next level by incorporating 3D inspection using the Cognex DS910B laser displacement sensor. It combines high quality custom-designed optics, a compact and rugged IP65 housing, and industry-leading Cognex vision software, to provide a solution that is ideal for high resolution 3D analysis of small components and dense or fine features.

The DS910B uses laser stripe projection for illumination and measurement. While this gives it the ability to acquire greyscale images similar to those obtained by traditional 2D line scan systems, the DS910B also provides a topological representation of your part by triangulation displacement sensing, yielding 3D geometric information that can be used to supplement 2D inspection data with measurements such as spatial orientation, height, tilt and volume. The additional 3D data means that even applications that are challenging to illuminate in 2D due to poor color contrast can become simple to solve. And since the DS910B comes with factory calibration, all measurement results are provided in physical units with micron-level accuracy, making 3D applications easier to use and quicker to deploy.

The resolution capability of the DS910B makes it particularly useful in today's manufacturing of products in the consumer electronics and medical device industries, where components are becoming smaller and tighter tolerances are required. Examples of applications solved using the DS910B sensor include:

- Positional verification of assembled electronics
- Measurement of screw depth and geometries of small machined slots
- Identification of surface defects introduced prior to and during manufacturing
- Inspection of quality and quantity of fine glue and sealant dispense
- Measurement of gap and height offset between tightly coupled components
- Verification of attachment and placement of small PCB components



Example gap width and height offset scan




3D scan of small PCB components with grey overlay



Cognex offers a total hardware and software solution that facilitates 3D vision application design, development, and deployment

## Specifications

Dimensions	118.5 mm (H) x 33 mm (W) x 85 mm (L)
Weight	440 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	8 mW (class 2M) 405 nm 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

### 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

## DS910B Specifications

Near Field of View (mm)	9.4
Far Field of View (mm)	10.7
Clearance Distance (mm)	52.5
Measurement Range (mm)	8
Laser Class	2M
Resolution X (mm)	0.00734-0.00836
Resolution Z (mm)	0.001

# COGNEX

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

Corporate Headquarters One Vision Drive Natick, MA 01760 USA

## Regional Sales Offices

### Americas

North America +1 844-999-2469  
Brazil +55 (11) 2626 7301  
Mexico +01 800 733 4116

### Europe

Austria +49 721 958 8052  
Belgium +32 289 370 75  
France +33 1 7654 9318  
Germany +49 721 958 8052

Hungary +36 30 605 5480  
Ireland +44 121 29 65 163  
Italy +39 02 3057 8196  
Netherlands +31 207 941 398  
Poland +48 717 121 086  
Spain +34 93 299 28 14  
Sweden +46 21 14 55 88  
Switzerland +41 445 788 877  
Turkey +90 216 900 1696  
United Kingdom +44 121 29 65 163

### Asia

China +86 21 6208 1133  
India +9120 4014 7840  
Japan +81 3 5977 5400  
Korea +82 2 539 9980  
Singapore +65 632 55 700  
Taiwan +886 3 578 0060

[www.cognex.com](http://www.cognex.com)

© Copyright 2016, Cognex Corporation. All information in this document is subject to change without notice. All Rights Reserved. Cognex, PatMax, IDMax and OCRMax are registered trademarks and Cognex Designer is a trademark of Cognex Corporation. All other trademarks are property of their respective owners.  
Lit. No. DS910B-2016-10-EN