

- > Measures 3D features such as heights, volumes and surface tilts
- > Factory-calibrated with results in real world units, micron-level accuracy
- > Industry-leading 2D and 3D machine vision software
- > Industrial IP65 laser and camera

The DS1000 3D sensor optimizes product quality by providing three-dimensional inspection of your products. Compact and industrially designed for the even the harshest factory environment, it also includes industry-leading Cognex vision software with a powerful new 3D toolset.

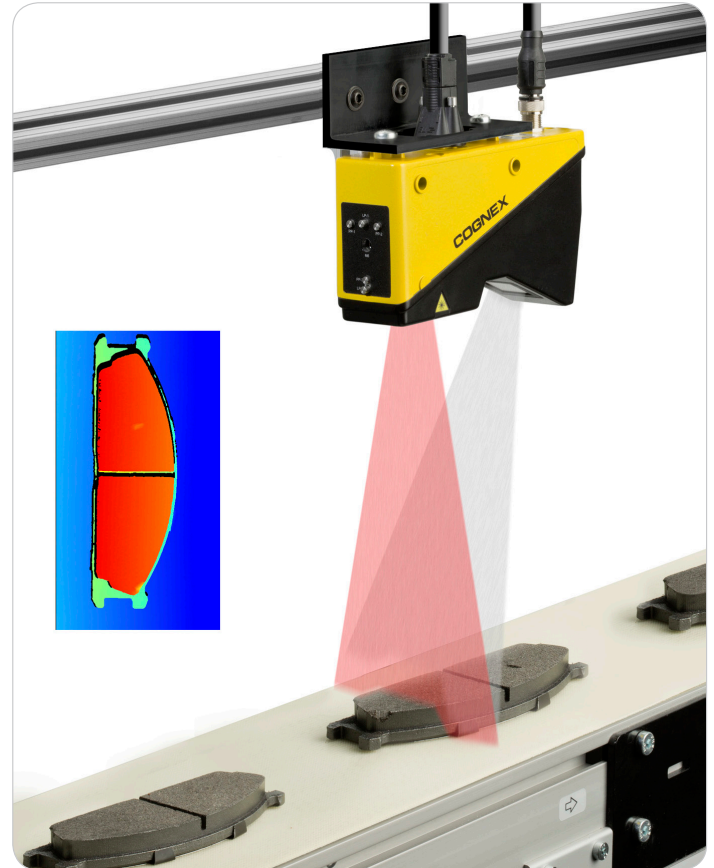
### Calibrated 3D Vision from Cognex

The factory-calibrated DS1000 provides results in real units of measurement with micron-level accuracy, making 3D applications easier to use and quicker to deploy.

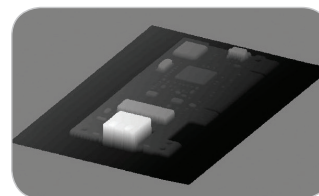
Unlike traditional 2D machine vision, the system provides a topographical representation of your part from which you can measure 3D features such as length, width, height, tilt or volume relative to any surface. It also simplifies challenging OCR or presence/absence applications by creating contrast from height changes, independent of color.

Application examples include:

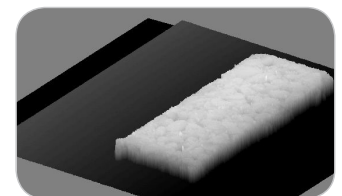
- Reading embossed or raised characters such as those on automobile tires
- Detecting missing objects in boxes or packages by height inspection
- Identifying surface defects and chips
- Measuring heights and tilts of components to determine misalignment
- Verify the correct volume for portion control



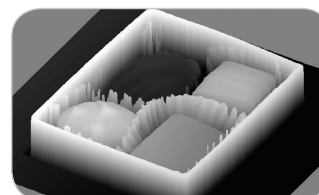
Optical Character Recognition (OCR)



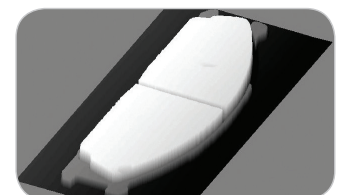
Measure heights



Verify volumes




Determine presence/absence



Identify surface defects

# DS1000 Series

## Specifications

Dimensions	93.3 mm to 115.2 mm (H) x 50 mm (W) x 167.06 mm (L)
Weight	165 g
Operating Temperature	0°C to 50°C (32°F to 113°F)
Storage Temperature	-10°C to 60°C (-14°F to 140°F)
Maximum Humidity	95% (non-condensing)
Housing	IP65 (with Cognex recommended IP65 Ethernet and power I/O cables)
Shock	10 gs for 5 ms (any access)
Vibration	8 gs (any access, any frequency)
Discrete I/O Operating Limits	Trigger input voltage limits: - 24 VDC – +24 VDC Input ON: > 10 VDC (>6mA) Input OFF: < 2 VDC (<1.5 mA)
Encoder Input Specifications	Differential: A+/B+: 5-24V (50 kHz max) A-/B-: Inverted (A+/B+) Single-ended: A+/B+: 5-24V (50kHz max) A-/B-: +0VDC=½(A+/B+)
Power Supply	Voltage: +24 VDC (22-26 VDC) Current: 500 mA max
Scan Rate	250 Hz – 4200 Hz
Resolution Z	.007 mm to .040 mm
Resolution X	.070 mm to .150 mm
Maximum Profile Points	1024
Laser Class	658 nm Class 2M
Software	VisionPro software
Ethernet	Gigabit Ethernet interface Integrated link and traffic LEDs Standard RJ-45 connector
Certifications	
Accessories	Ethernet cable: 5m, IP65-rated Power: + I/O + Encoder cable, IP65-rated Mounting bracket Stainless steel enclosure, IP69K-rated for the food industry

## Benefits and Features

### Sensor inspects and measures in 3D

- Volume, height, tilt, OCR

### Results in real-world units (mm)

- Calibrated 3D system
- Micron-level accuracy

### Contrast independent inspection

- Dark object on dark background
- Independent of color

### Ability to combine 3D and 2D cameras

- Many applications require both

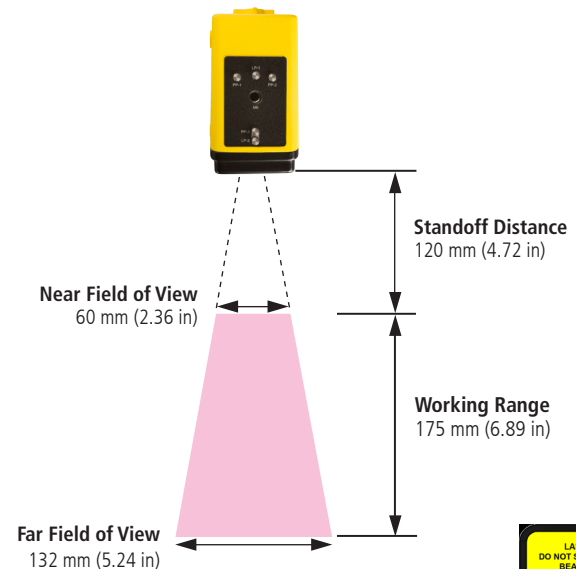
### World-class 3D and 2D vision tools

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

### Industrial IP65 Housing

- IP69K enclosure option for food and beverage applications

For a simplified overview of how it works, watch the demonstration video at [www.cognex.com/ds1000](http://www.cognex.com/ds1000).



## Americas

United States, East	+1 508 650 3000
United States, West	+1 650 969 8412
United States, South	+1 615 844 6158
United States, Detroit	+1 248 668 5100
United States, Chicago	+1 630 649 6300
Canada	+1 905 634 2726
Mexico	+52 81 5030 7258
Central America	+52 81 5030 7258
South America	+1 909 247 0445
Brazil	+55 47 8804 0140

## Europe

Austria	+43 1 23060 3430
Belgium	+32 2 8080 692
France	+33 1 4777 1550
Germany	+49 721 6639 0
Hungary	+36 1 501 0650
Ireland	+353 1 825 4420
Italy	+39 02 6747 1200
Netherlands	+31 208 080 377
Poland	+48 71 776 0752
Spain	+34 93 445 67 78
Sweden	+46 21 14 55 88
Switzerland	+41 71 313 06 05
Turkey	+90 212 371 8561
United Kingdom	+44 1327 856 040

## Asia

China	+86 21 5050 9922
India	+9120 4014 7840
Japan	+81 3 5977 5400
Korea	+82 2 539 9047
Singapore	+65 632 55 700
Taiwan	+886 3 578 0060

© Copyright 2013, Cognex Corporation. All information in this document is subject to change without notice. All Rights Reserved. IDMax, PatMax and Cognex are registered trademarks and OCRMax is a trademark of Cognex Corporation. All other trademarks are property of their respective owners.  
Lit. No. 3DDS-2013-02

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

Corporate Headquarters  
One Vision Drive Natick, MA 01760 USA  
Tel: +1 508 650 3000 Fax: +1 508 650 3344

