LASER GAUGE® PRODUCTS

RS501 Sensor

Overview

The RS501 sensor is used in on-line or remote applications. Stationary over a moving line, affixed to a linear slide or used as an end-effector for robotic inspections, the RS501 brings all of the scanning capabilities of the handheld sensors into the more demanding applications. Rugged construction and cooling ports keeps the sensor running in harsh industrial environments.

Operating Features

Design - A compact design allows the RS501 to be used in applications with limited access. Mounting ports are located on the top of the sensor and provide flexible options for positioning the sensor.

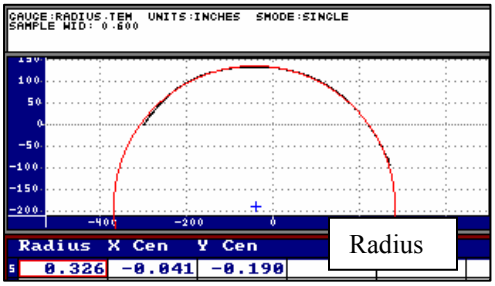
Standoffs - Since standoffs are used only to bring the sensor into an optimal depth-of-focus position, these are not necessary for applications where the sensor is mounted to a fixture or robot. Positioning in those cases would be designed into the fixture or adjusted with feedback from the image.

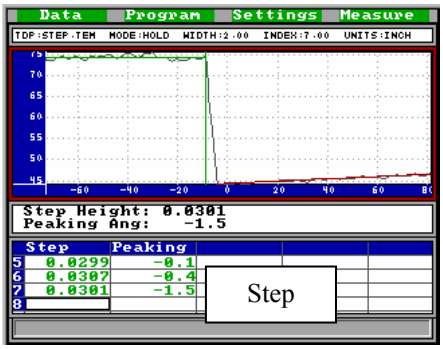
Interface - A single connector is used for power, video and communication. This makes it easy to replace the sensor or swap it for a different field-of-view.

Custom Applications – With a wide range of field-of-views available, the RS501 sensor is perfect candidate for many custom applications. A uniquely designed adapter with two mirror faces enables the sensor to “see” and inspect the pressure face of a fan disk. Ordinarily, the underside of this surface would not be accessible for scanning.

Applications

Profile	Continuous monitoring of surface features and contours as parts pass on a moving line.
Radius	Continual measurement of radius of curvature to monitor tool degradation.
Weld Inspection	Concavity, convexity, undercut measurements. Inspection for missing welds and pinholes.
Height and Width	Height and width of product used with known line speed for volumetric calculation.
Step/Distance	Part feature variance from datum to identify production problems.
Wear	Wear identification and measurement with resolution to ±0.0005” depth





Advantages

Versatile - A fixed inspection station typically utilizes a custom controller with the RS501 sensor. The RS501 can also be used in portable applications. Attached to the portable LG1102 controller, the sensor can be mounted on a custom fixture and the whole inspection system becomes transportable from part to part. Triggering is performed using an external momentary switch or foot switch.

Adaptive - In some cases where access is limited or the feature to be measured cannot be seen from the top surface, special mirror adapters can be designed to provide a measurable image.

Sensor Specifications

Type	Mounted
Size	1.6" (w) x 2.5" (h) x 3.5" (l)
Weight	8 oz
User Interface	None
Cable Length	Up to 30’ (10m)
FOV Options/Resolution	0.375” (10mm) / 0.0006” (15µm) 0.5” (13mm) / 0.0008” (20µm) 1.0” (25mm) / 0.001” (25µm) 2.0” (50mm) / 0.002” (50µm) 3.2” (80mm) / 0.004” (80µm)
Environment	0° – 70° C

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