

## Overview

The RS750 is a USB 2.0-based, high-resolution profiling sensor that is used in on-line, robotic and remote applications. Stationary over a moving line, affixed to a linear slide or used as an end-effector for robotic inspections, the RS750 provides all of the LaserGauge® scanning and algorithm capabilities for custom applications.

Rugged construction keeps the sensor running in harsh industrial environments, and the USB interface provides the sensor's power requirements and rapid data transfer, all through just one cable.



## Operating Features

**Design** - A compact design allows the RS750 to be used in applications with limited access. Four mounting ports are located on the top of the sensor, and these provide a number of options for mounting and positioning the sensor.



**Standoffs** - Since mechanical standoffs are used only to bring the sensor into an optimal depth-of-focus position, standoffs are not necessary for applications where the sensor is mounted to a fixture or robot. Positioning the sensor at the optimum distance from the part can be designed into the fixture or can be controlled robotically with feedback from the scan.

**Interface** - A single USB cable is used for power, data and communication, making it compatible with Windows™-based computers (laptop, notebook or tablet). This makes it easy to replace the sensor or move it to a different inspection station.



**Custom Applications** – With a wide range of field-of-view options available, the RS750 sensor is the perfect candidate for many custom applications. Multiple sensors can be used to view 360° around a complex part. The sensors can be calibrated together to provide accurate measurements from every angle and synchronized to capture scans simultaneously.

## Advantages



**Versatile** – The LGCommander software, which is included with the sensor, runs a Virtual Gauge or LGBasic algorithm on the scan captured by the RS750. Data is automatically saved to a file and profiles can also be automatically saved.

**Adaptive** - In cases where access is limited, the RS750 sensor can be used instead of one of the handheld models by mounting the sensor on a fixture and positioning the part beneath it.

**Expandable** – The powerful USB interface allows multiple RS750 sensors to work in conjunction to scan complex parts. The sensors can be synchronized so that the multiple scans can be acquired simultaneously for time-critical measurements.

## Applications

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

## Sensor Specifications

Type	USB – Remote Mounted
Size	1.6" (w) x 2.5" (h) x 3.5" (l)
Weight	8 oz.
User Interface	None
Cable Length	USB 2.0A to Mini 5-Pin USB, 6' straight cable Cable distance can be increased using an active USB extension cable
FOV Options / Horizontal Scanning Resolution / Depth Accuracy	0.50" (13mm) / 0.0004" (10 $\mu$ m) / $\pm 0.0005$ " (20 $\mu$ m) 1.20" (30mm) / 0.0008" (20 $\mu$ m) / $\pm 0.0008$ " (20 $\mu$ m) 1.90" (50mm) / 0.0015" (38 $\mu$ m) / $\pm 0.0015$ " (37 $\mu$ m) 2.60" (65mm) / 0.0020" (50 $\mu$ m) / $\pm 0.0020$ " (51 $\mu$ m)
Shock Protection	Cast urethane housing
Environment	0° – 70° C

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