

# HS760 CrossVector Sensor

The HS760 is the most advanced sensor in the LaserGauge line of inspection products. By utilizing multiple lasers and multiple views of the part being measured, a complete surface contour can be scanned, even in areas that have historically been invisible to the sensor.

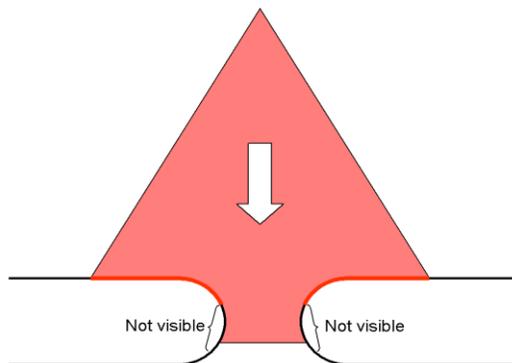
## Scanning/Processing Features

The innovative cross-vector design provides many design features that move it out far beyond its leading competitors:

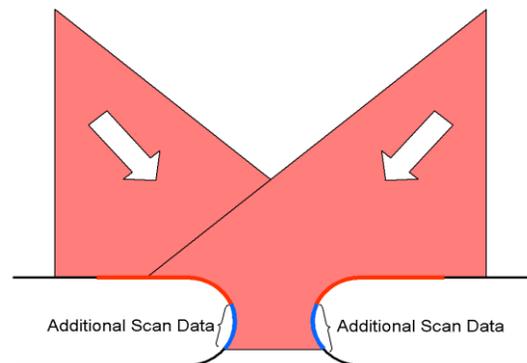
### CrossVector imaging design

Traditional sensors utilize a single laser coupled with a single receiver to acquire a scan. The limitation of this method is that points that are

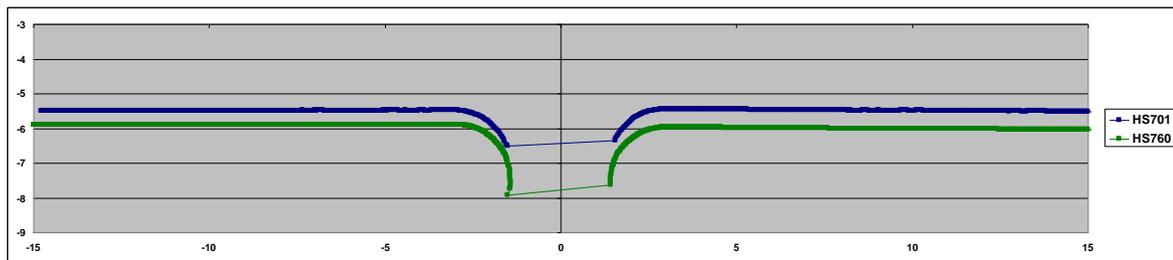
located in proximity to the vertical tangent location of the gap are invisible to the sensor. Previous (and current) LaserGauge sensors have utilized a scanning method whereby the user rotates the sensor from left to right to facilitate scanning of these vertical points, but this method is more time-consuming and requires more effort by the operator. The new CrossVector imaging design provides multiple views of the gap, enabling scanning of the previously-unseen portions of the gap. It still uses the typical scanning configuration, but two additional viewpoints acquire data beyond the vertical tangent points of the gap, giving a more complete cross-sectional scan of the gap.



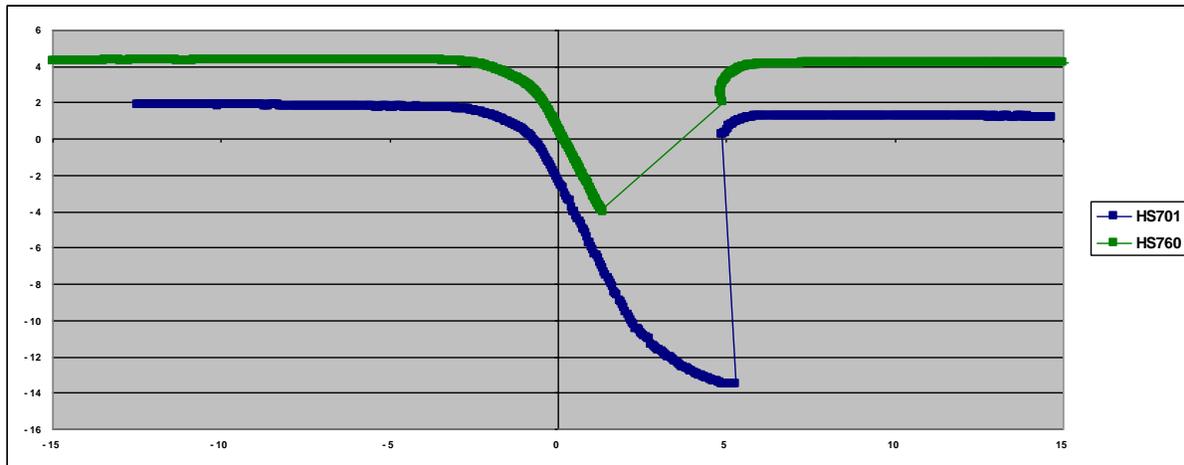
Traditional Scanning Methods



CrossVector Scanning Method



Comparison of actual scans of Hem-to-Hem from both HS701 and HS760 sensors



Comparison of actual scans of Flange-to-Hem from both HS701 and HS760 sensors

### Multiple lasers

The HS760 utilizes 3 different lasers that give more detailed information about the gap:

- > The angled lasers provide illumination beyond the vertical tangent points of the gap.
- > Using multiple lasers allows the sensor's orientation to be completely known. Pitch, yaw and roll are automatically calculated and the measurements are automatically adjusted to correct for these deviations from normal.
- > Using multiple lasers from 3 different views gives a higher density of points, plus reduction of the noise due to laser speckle error (common in all laser-based systems)

### High-power ARM processor

The HS760 utilizes a 1 GHz ARM processor (compared to the 72 MHz processor currently used in the HS701), for almost 14X more processing power. Coupling this with the Linux operating system and faster imaging chip yields a very fast and powerful sensor that can process all of the different views and different lasers in a reasonable amount of time. A typical measurement still can be performed in <1.5 seconds.

### Basic Features

1. 100% compatible with all existing virtual gauge types and routines.
2. Larger display (3.5") with touchscreen interface
3. Joystick plus user buttons for keypad interface
4. 1 GHz processor (compared to the 72 MHz processor on the HS701) for 14X the power of the HS701
5. 500 Mbytes of data/scan storage
6. Routine-capable – will run any existing routines.
7. Built-in barcode scanner – supports most barcode types (linear and 2D)
8. Zigbee wireless for use with LGWorksRT.
9. Will map as a drive letter when plugged into a PC. Simple drag-and-drop for loading routines or retrieving data.

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