LASER GAUGE® PRODUCTS

HS305CH Sensor

Cross-Hair Technology

Overview

Through an innovative design, this unique laser sensor utilizes two laser lines that are rotated 90° from each other and cross at the mid point of each line. Hence the name Cross-Hair. This design allows the operator to quickly and easily position the sensor over a countersink, hole, or fastener to measure the major diameter and angle of a countersink, hole diameter, or fastener edge height. Its overall design is similar to the HS305 with a molded housing, foam handle and finger trigger.

Operating Features

Cross-Hair View - Unlike the design of other LaserGauge sensors, the cross-hair uses a twin laser configuration which enables the sensor to obtain cross-section scans in two orthogonal planes of the part. Defining the Z-axis as the vertical dimension of the part, two scans are acquired: one in the XZ plane and the other in the YZ plane. This 3-D information can then be processed to perform 3-D analysis of a variety of features. The dual lasers design also serves another important function: it enables the operator to quickly and easily position the sensor over the center of a circular feature, such as a counter-sink, hole, pit, or fastener. Once in proper orientation, scans are automatically acquired and analyzed, and the measured values are returned.

Gain Adjustment – Like the other LaserGauge sensors, an internal microcontroller adjusts the laser and CCD automatically to optimize the signal returned from all types of surfaces from bare metal, composite and every color of painted surface.

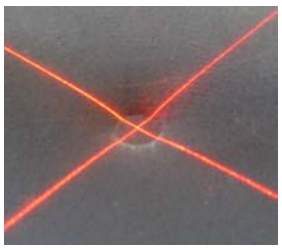
Positioning Standoffs - Sensor standoffs are used to position the sensor at the optimum height above the feature being scanned. The standoffs of the HS305CH also allow sufficient clearance for a clear view of the feature being measured so that the sensor can be positioned accurately. Standoffs are used to position the sensor only and are not a factor in the measurements. Standoffs are removable and different designs can be interchanged to fit the needs of the application.

Applications

Measurements in the following applications are done in 3-D, along the XZ and YZ planes

Countersink
- Major diameter
- Countersink angle
- Surface angle
- Normality

Fastener
- Edge Height (4 locations)
- Fastener angle
- Proud or sub flush
- Bi-directional



Spot Weld
- Angular distortion
- Electrode indentation
- Surface eruption
- Surface distortion

Advantages

More Feature Data - The HS305CH Cross-Hair sensor captures more multi-dimensional data in less time, decreasing inspection time and increasing operator efficiency for inspection.

Sensor Specifications

Type	Handheld
Size	2.3" (w) x 4.0" (h) x 7.5" (l)
Weight	18 oz
User Interface	2-row x 16-character LCD, 2 sets of 3 LED's
Cable Length	5' (1.5m) extended
FOV Options/Resolution	0.5" (13mm) / 0.0016" (20μm) 1.0" (25mm) / 0.002" (25μm) 2.0" (50mm) / 0.004" (50μm)
Environment	0° – 70° C

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