

HS720 USB Sensor



Overview

The HS720 USB sensor is specifically designed for inspecting and measuring small features in hard-to-access areas. Applications include edge radius, break angles, chamfer angle and length, gap/flush, step height and other measurements where accessibility to the feature is limited.

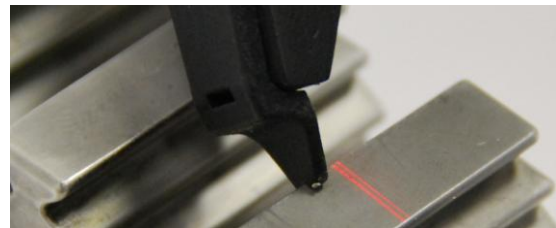
As with the other LaserGauge® USB sensors, a high-resolution imager captures the 2D surface profile and transfers it to a PC or to the LG1200 controller for processing and display. But unlike other sensors, the HS720 projects two laser stripes on the surface instead of just one. The second stripe provides additional orientation information for greater accuracy and repeatability.



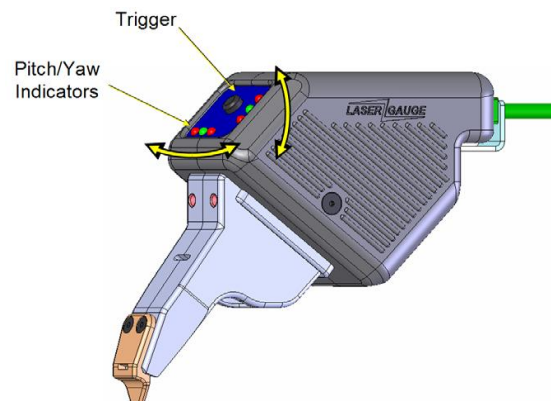
Operating Features

High Resolution – With a horizontal scanning resolution of 1280 surface points within the field-of-view (FOV), the sensor has 250% greater resolution than most other handheld profilers.

The HS720 is currently available with a 0.50-inch FOV.



Pitch/Yaw Feedback – The HS720 sensor utilizes a unique double laser stripe to provide feedback to the operator for optimum positioning of the sensor. On complex parts, it is difficult to position a single-stripe sensor at the proper pitch and yaw relative to the part's surface. The misalignment of a single-stripe sensor will impact the repeatability and accuracy of the measurements. However, with two stripes, the positioning of the sensor can be optimized by the operator and further corrected in the algorithm.



Sensor positioning information gained from the dual stripe is fed back to the operator through the pitch and yaw indicators. The operator can then orient the sensor normal to the surface. When the measurement is acquired, the sensor orientation relative to the part is calculated and the measurements (such as radius, angle, etc.) are automatically corrected for any remaining misalignment. Separation between the two stripes is approximately 0.050" (1.27mm), so any features smaller than this distance may not be detected and may not be accounted for in the misalignment correction.

Configuration Software – A powerful, Windows™ based software program, LGCommander, is used to configure the sensor and run the algorithm.

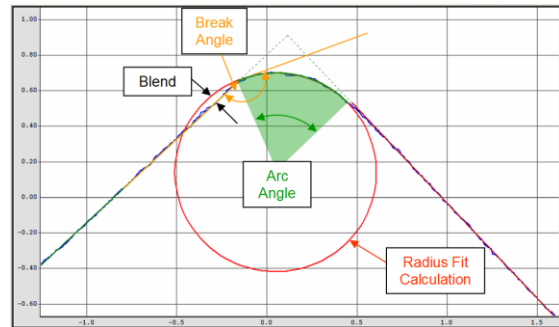
Scans are displayed in real time and can be saved automatically. Setups, user rights and operational preferences can be safeguarded under passwords, and certification of the gauge for a specific application can be managed through the software.

Computer Requirements – As a USB-based sensor, the HS720 can be used with a laptop, desktop or tablet PC. The HS720 can also be used with a LaserGauge LG1200 controller, creating a system that is very portable and easy to use.

Applications

The primary application for the HS720 sensor is the inspection of break edges on engines and other critical aerospace parts. Running one algorithm on the break edge returns the following measurements: edge radius, break angle, arc angle, blend distance, surface angle.

Additional applications include measuring chamfer angle and length and measuring gap and flush.



Sensor Specifications

Type	Handheld
Size	1.75" (w) x 4.0" (h) x 5.0" (l)
Weight	6.5 oz
User Interface	6 Pitch/Yaw feedback LEDs, trigger
Cable Length	USB 2.0A to Mini 5-Pin USB, 6' straight cable
FOV Options: Horizontal Scanning Resolution, Depth Accuracy	0.50" (12mm): 0.0004" (10µm), +/- 0.0005" (12µm)
Shock Protection	Cast urethane housing
Environment	0° – 70° C



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