

**PRODUCT DATASHEET**

**HS733LE Sensor | With Blue Light Technology**

**OVERVIEW**

The HS733LE-B sensor with Blue Laser Technology is used to inspect the leading edge of blades or vanes used in aircraft and power system engines made from nickel alloy, composite, stainless steel, titanium or ceramic. Designed to scan both sides of the blade simultaneously, the sensor returns a complete profile around the radius of the blade, which allows the accurate measurement of the thickness and the plotting of the blade profile for comparison to its engineering design. The edge radius can also be analyzed.

The sensor connects to a Windows™ 10 laptop or tablet PC via a USB 2.0 cable. No other hardware or external power source is required.



**OPERATING FEATURES**

**MEASUREMENT RANGE**

The HS733LE-B is designed to scan smaller blades and to fit into tighter spaces than the HS730LE-B model. The HS733LE-B has a 0.150-inch field-of-view (FOV). The table below shows the range of blade sizes that can be measured using the HS733LE-B sensor. The range is expressed in terms of the maximum blade thickness at a distance back from the leading edge. This distance is called the setback distance.



**RESOLUTION**

With a 0.150" field-of-view (FOV), the HS733LE-B has a scanning resolution of 0.0002", and measurement accuracy to within 0.0005" (12µm) on the blade thickness.

**BLUE LASER TECHNOLOGY**

When measuring on nickel alloy, composite, stainless steel, titanium or ceramic blades, the reduced wavelength of the blue laser offers precise tracing of the blade profile. The blue laser generates a minimal laser point on the surface (approximately 0.002") and therefore offers stable, highly accurate and more consistent results on measuring objects that are normally considered as critical.

**FEEDBACK**

Scanning is as simple as positioning the sensor on the edge of the blade and pulling the sensor trigger. Raw video and the plotted profile are displayed in real-time on the laptop or computer used with the sensor. Measurements are recorded when the trigger is released. Out-of-spec conditions are flagged with color symbols.

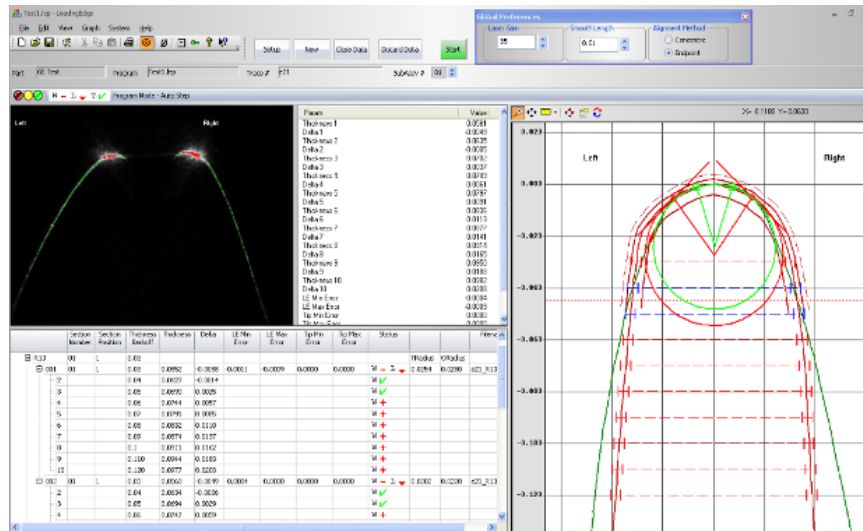
| Blade Thickness | Maximum Setback |
|-----------------|-----------------|
| 0.050"          | 0.250"          |
| 0.100"          | 0.225"          |
| 0.150"          | 0.200"          |

**MEASUREMENTS**

|                   |   |
|-------------------|---|
| Blade Thickness   | Blade thickness measured at specified distances (setback) from the leading edge. Thickness can be measured at up to 10 locations on the blade.                      |
| Profile Deviation | Profile of actual blade deviating outside a specified tolerance band around the blade's design nominal, specified using customer engineering drawings as templates. |
| Edge Radius       | Radius fit to the edge can be calculated automatically with each scan or with on-screen tools.  |

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**Programs** – Separate programs can be developed for different blades, specifying different profile nominals and templates and different setback distances for thickness measurements.

**Documentation** – Data displayed in the table can be saved. The blade profile can be saved automatically for each scan, as well as an image of the plotted profile with measurement lines as shown in the above plot window.

**SENSOR SPECIFICATIONS**

|   |  |
|---|--|
| Type  | USB – Handheld   |
| Size  | 1.75" (w) x 4.5" (h) x 7.5" (l) – width at scanning point is 1.25" |
| Weight  | 12 oz.   |
| User Interface  | 3 LED's, 2 tactile buttons, finger trigger                         |
| Cable Length  | USB 2.0A to Mini 5-Pin USB, 6' straight cable                      |
| FOV Options / Horizontal Scanning Resolution / Depth Accuracy | 0.150" (4mm) / 0.0002" (5µm) / ± 0.0005" (12µm)                    |
| Shock Protection  | Cast urethane housing  |
| Environment   | 0° – 70° C   |

Our continuing commitment to quality products may mean a change in specifications without notice.

This system complies with 21 CFR Chapter I, Subchapter J.

HS733LE-B Sensor-200728

