HS701 DSP Sensor

Overview

With an integral power source, the HS701 DSP sensor becomes the first handheld, laser profiler that is totally self-contained. Take measurements, view data and analyze surface profiles without needing to be tethered to a computer or any other device. Or attach the sensor to a tablet pc or laptop via a USB cable and take advantage of enhanced graphic capabilities and the ability to run inspection routines.

A high-resolution imager captures the 2D surface profile and an on-board DSP performs the complex processing. Profiles can be viewed on the integral color display in real-time and measurement results are displayed when the scanning is complete. The sensor can run all of the innovative LaserGauge® virtual gauges and complex measurement algorithms.

Operating Features

Color Display – An integral, 280 x 220 LCD provides graphical and textual information before, during and after the scanning. The surface profile can be viewed during the scanning process and the measurement results are immediately displayed once the scanning is complete. The plotted profile and the resulting measurements can be viewed on the same screen or the measurements can be analyzed in a table view.

Fully Portable – A rechargeable, lithium-ion battery provides power for three to four hours of constant operation in the stand-alone mode. When operating in the portable mode, the sensor is not attached to anything, not to a laptop, tablet pc or computer of any sort, and not to an external power source.

User Interface – Six function and direction buttons are located just in front of the handle, within easy finger reach A user can take measurements, navigate menus and select functions, all with just one hand. Color LED's on the top and the bottom of the sensor provide orientation instructions so the inspector can position the sensor consistently for each scan.

Tethered Operation – The sensor can run off of a battery or be connected to a laptop, tablet pc or other computer through a USB 2.0 port that supports 500mA of power. Running the sensor from a pc provides the benefits of larger, more detailed graphics and data can be immediately accessed for analysis with other software programs.

The surface profile for every measurement in the data table can be re-displayed by merely clicking on that measurement value. Or all profiles can be saved automatically with names that correspond to the measurement row in the data file.

Configuration Software – A powerful, Windows™ based software program, LGCommander, is used to configure and test measurement algorithms for specific parts, establish inspector, supervisor and administrator rights for the sensor, and to set operational preferences. Certification of the gauge for specific applications can be approved and managed by the Administrator. LGCommander also supports the simultaneous use of multiple DSP sensors.

Advantages

GO/NO-GO Gauge – Gauge settings and limits can be programmed into the sensor in advance so an inspector only has to select the part that is to be inspected and take the scans. The inspector is alerted to Pass or Fail conditions by red or green value indicators and by identifying audio tones.

High Resolution – With a horizontal scanning resolution of 1280 surface points within the field-of-view, the sensor has 2 and ½ times the resolution of most other handheld profilers.

Versatility – The HS701 DSP sensor can run off of a battery for stand-alone applications or tethered to a pc through a USB cable for complex applications or inspection routines. As with other LaserGauge sensors, the DSP sensor adjusts to all surface colors and it can run any Virtual Gauge or LGBasic algorithm.

Sensor Specifications

Type	Handheld
Size	2.5" (w) x 3.9" (h) x 9.5" (l)
Weight	16 oz (20 oz with battery)
User Interface	280 x 220 Color Display, 2 sets of 3 LED's
Cable Length	USB 2.0A to Mini 5-Pin USB, 6' straight cable
Battery	Rechargeable lithium-ion, camcorder type, recommend Energizer Model ER-C680 or Samsung Model SB-L160, any equivalent models are acceptable
FOV Options/Horizontal Scanning Resolution	1.20" (30mm) / 0.0008" (20μm) 1.90" (50mm) / 0.0015" (38μm)
Shock Protection	Cast urethane housing
Environment	0° – 70° C

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