

SURVEYOR® 3D Laser Probes

Specifications



Surveyor Laser Probes (SLP) 250, 500 & 2000

- Industry-leading accuracy and performance
- Broad range of models available
- Compatible with stationary CMMs and articulated arms
- Scanning software with up to 6-axes of motion control
- Integrated with all Laser Design Surveyor 3D scanning systems

Probe Features

Capturing up to 225,000 points per second, the Surveyor Laser Probes (SLP) are your answer for high-accuracy, high-speed, non-contact 3D scanning. The SLP line features digital (ASCII) coordinate output, a visible beam, a Class II rating for safe and easy-to-see operations, and a long standoff to prevent crashes during part scanning. Its large measurement range, enhanced specular performance, and automatic adjustments for surface color and finish ensure excellent results time after time. Dual CMOS receptors featuring simultaneous scanning are standard to assist with steep sidewall and recessed geometry capture. With no moving parts and a completely solid-state design using the latest CMOS technology, the SLP line is built to last with minimum maintenance.

System Integration

Surveyor laser probes are fully integrated with Laser Design's Surveyor 3D, Stationary CMM-based scanning systems, Space Arm Systems as well as with other CMMs using Renishaw Pantec Controllers.

PC and Software Interface

SLPs interface to PCs using a standard USB connection. A high-end PC with ample memory, Windows 64-bit, and a high-end Open GL graphics video card are recommended. The Geomagic, Rapidform and Polyworks software "Plug In" interfaces are also provided for Surveyor arm-based scanning systems.

Wide Range

SLP probe models are available in a variety of laser line lengths with varying accuracy levels. With the ability to scan everything from small, highly detailed parts to large automotive and aerospace parts, SLP probes are your answer for precise laser scanning.

Application Tools Library for Integrators

The Application Tools Library contains all the tools essential for data capturing, buffering, and outputting profile data. Consisting of ActiveX controls and available in object form for all the popular PC-based development environments, the library provides a straightforward integration path for application software developers and system integrators.

Common Applications

- Part-checking against CAD
- GD&T Measurements
- Dimensional Inspection
- Reverse Engineering



SURVEYOR® Laser Probes

Specifications

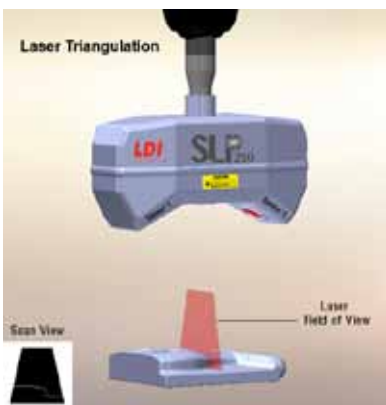


	SLP-250	SLP-500	SLP-2000
LDI Part Number	990-0170	990-5500	995-2000-2
Laser Type	Laser Diode	Laser Diode	Laser Diode
Laser Power Output	<1mW, Class II	<1mW, Class II	<1mW, Class II
Laser Wavelength	670 nm	670 nm	670 nm
Standoff Distance			
Near	72 mm	73 mm	185 mm
Mid	91 mm	105 mm	
Far	110 mm	136 mm	
Depth of Field	38 mm	63 mm	215 mm
Line Length			
Near	20 mm	40 mm	150 mm
Mid	22 mm	53 mm	195 mm
Far	25 mm	67 mm	240 mm
Accuracy ¹	≤ 10 μm	≤ 20 μm	75 μm
Sample Count	752 points / line	752 points / line	752 points / line
Sample Rate ²	37,500 / sensor 75,000 total points per sec.	37,500 / sensor 75,000 total points per sec.	75,000 total points per sec.
Frame Rate Depends on WOI ³	50 Hz to 150 Hz	50 Hz to 150 Hz	50 Hz to 150 Hz
Sample Density	30 μm	70 μm	250 μm
Detectors (dual)	480 x 752 CMOS	480 x 752 CMOS	480 x 752 CMOS
Weight (probe only)	480 g	480 g	566 g
Size (h x w x d)	90 mm x 180 mm x 60 mm	90 mm x 180 mm x 60 mm	280 mm x 75 mm x 55 mm
PHI0 Compatibility	PHI0T and PHI0M	PHI0T and PHI0M	PHI0M
Typical Application	Small to medium parts	Small to large parts	Large parts
Beam Spreader	Passive optical, no moving parts, uniform dispersion		
Minimum Angle of Incidence	20 degrees		
Ambient Light Rejection	Interference filters on sensors		

¹ Accuracy is the allowable error of the measured position of a vertex target at 9 positions within the laser field of view.

² Sample rates assume simultaneous dual sensor operation mode.

³ WOI: Window of Interest



SLP Laser Probe Carrying Case and Tools

CAUTION

- Laser radiation - Do not stare into beam
- Semiconductor laser 670nm
- Max output 0.9mW. Class II laser product
- Avoid Exposure: Laser radiation emitted from this aperture.
- This laser product complies with 21 CFR 1040.10 and 1040.11 at date of manufacture.

9401 James Ave S., Suite 132, Minneapolis, MN 55431
 laserdesign.com • 952-884-9648 • info@laserdesign.com