

SURVEYOR® Laser Probes

Specifications



Surveyor Laser Probes (SLP) 250, 400, & 500

- Flexible laser probes with standard USB interface
- Compatible with FARO®, PH-I10, any CMM
- Included with Laser Design Surveyor 3D systems
- Part-checking against CAD
- GD&T measurements
- Complex 2D profile and in-line process measuring
- Reverse engineering

Probe Features

Our award-winning technology leads the industry with a new family of line-range laser probes that are ideal for complex profile contour scanning. 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 probe 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 construction using the latest CMOS technology, the SLP probe line is built to last with minimum maintenance.

System Integration

SLP laser probes are fully integrated with Laser Design's Surveyor 3D scanning systems. Offering 3-6 axes of programmable CNC motion control, Laser Design's Surveyor systems come in a broad range of sizes and with varying accuracies. SLP laser probes are available separately for easy integration with 7-axis Platinum/Titanium FaroArms® as well as with any traditional CMM. (See Faro Interface Kit Spec Sheet or CMM laser probe system information for integration instructions.)



PC and Software Interface

SLP laser probes interface to PCs using a standard USB connection. A high-end PC with ample memory, Windows XP or XP 64, and a high-end Open GL graphics video card are recommended. SLP laser probes are interchangeable with the RPS probes on most LDI Surveyor scanning systems. The Geomagic software "Plug In" interface is also provided for FaroArms® and some Surveyor 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.

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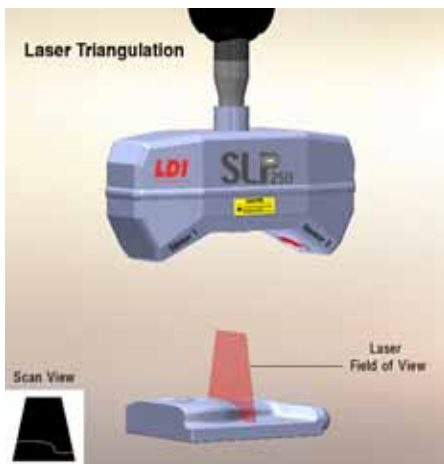


	SLP 250	SLP 400	SLP 500
LDI Part Number	990-0170	990-0171	990-5500
Laser Type	Laser Diode	Laser Diode	Laser Diode
Laser Power Output	<1mW, Class II	<1mW, Class II	<1mW, Class II
Laser Wavelength	670 nm	670 nm	670 nm
Standoff Distance			
Near	72 mm	94 mm	73 mm
Mid	91 mm	132 mm	105 mm
Far	110 mm	170 mm	136 mm
Depth of Field	38 mm	76 mm	63 mm
Line Length			
Near	20 mm	25 mm	40 mm
Mid	22 mm	33 mm	53 mm
Far	25 mm	40 mm	67 mm
Accuracy ¹	10 µm	50 µm	20 µm
Sample Count	752 points / line	480 points / line	752 points / line
Sample Rate ²	37,500 / sensor 75,000 total points per sec.	24,000 / sensor 48,000 total points per sec.	37,500 / sensor 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	69 µm	70 µm
Detectors (dual)	480 x 752 CMOS	640 x 480 CMOS	480 x 752 CMOS
Weight (probe only)	500 g	400 g	500 g
Size (h x w x d)	90 mm x 180 mm x 60 mm	60 mm x 200 mm x 35 mm	90 mm x 180 mm x 60 mm
PHI0 Compatibility	PHI0T and PHI0M	PHI0T and PHI0M	PHI0T and PHI0M
Typical Application	Small to medium parts	Medium to large parts, FARO	Small to large parts, FARO
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.

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